

VANCOUVER AIRPORT FUEL DELIVERY PROJECT

Application Information Requirements

**As Approved by the
Environmental Assessment Office**

**On
October 27, 2010**

**For
Vancouver Airport Fuel Facilities Corporation
Application for an
Environmental Assessment Certificate**



PREFACE TO THE APPLICATION INFORMATION REQUIREMENTS

The Proponent, Vancouver Airport Fuel Facilities Corporation (“VAFFC”), proposes to develop a new aviation kerosene fuel (“aviation fuel” or “fuel”) delivery system project located in the City of Richmond, Lower Mainland, British Columbia (“B.C.”).

The proposed Vancouver Airport Fuel Delivery Project (“the proposed Project”) consists of:

- upgrades to an existing marine terminal wharf located on the South Arm of the Fraser River (“Fraser River” or “the river”) to accommodate fuel cargo vessels;
- construction and operation/maintenance of new facilities at the marine terminal for off-loading fuel cargo;
- construction and operation/maintenance of a new fuel receiving facility;
- construction and operation/maintenance of a new pipeline to transfer fuel from the marine terminal to the fuel receiving facility;
- construction and operation/maintenance of a new pipeline to deliver fuel from the fuel receiving facility to Vancouver International Airport (“YVR”); and
- movement of fuel cargo on vessels within the Fraser River.

Based on preliminary conceptual designs, the proposed Project does not exceed one of the thresholds that would make it “reviewable” under the B.C. *Environmental Assessment Act*, S.B.C. 2002, c. 43 (“the BCEAA” or “the Act”) Reviewable Projects Regulation. Notwithstanding that the proposed Project does not exceed one of the thresholds that would make it a “reviewable” project, in a letter to the B.C. Environmental Assessment Office (“EAO”) dated November 28, 2008, VAFFC requested an opt in to the BCEAA review process under section 7(1) of the Act for the following reasons:

- at 2.78 petajoules of energy storage capacity, the proposed Project is close to the threshold that would make it “reviewable”;
- given the proposed Project’s location and function, it has the potential for significant adverse effects that must be managed carefully in the design, construction and operation/maintenance phases;
- it is in the public’s best interest to ensure that the risk of adverse effects and the adequacy of proposed risk mitigation are assessed in a thorough review of the proposed Project;

- although several environmental assessment processes apply to specific components of the proposed Project, only the BCEAA process captures the entire geographic extent and function of these components and provides the necessary level of coordination to best serve the public interest; and
- the proposed Project is essential to the ongoing and future operations of YVR, which is a significant economic driver for Canada, B.C., and the Lower Mainland Region.

In response to VAFFC's opt in request, the proposed Project was designated as "reviewable" pursuant to the BCEAA in an order issued by the EAO on February 10, 2009, under section 7(3)(a) of the Act.

The proposed Project also requires Approval from Vancouver Fraser Port Authority (doing business as Port Metro Vancouver and referred to hereafter as "the Port") under section 3(1) of the *Canada Port Authority Environmental Assessment Regulations* for the intent to lease Port land for the construction and operation/maintenance of the proposed fuel receiving facility and the required expansion of the existing Water Lot lease at the marine terminal, which "triggers" a federal environmental assessment review pursuant to the *Canadian Environmental Assessment Act (CEAA)*.

As communicated to VAFFC by the Canadian Environmental Assessment Agency ("the CEA Agency") in a letter dated September 08 2010, Transport Canada has determined that an Approval under section 5(3) of the *Navigable Waters Protection Act* is required for the upgrade and operation/maintenance of the proposed marine terminal component, which does not "trigger" a federal review under the CEAA. As such, the Port is the sole designated "Responsible Authority" (referred to as a Regulated Authority under the *Canada Port Authority Environmental Assessment Regulations*), responsible for the federal environmental assessment review of the proposed Project. Transport Canada and Environment Canada are expected to provide expert advice to the Port in the role of Federal Authorities.

The "Canada – B.C. Agreement for Environmental Assessment Cooperation (2004)" provides for a harmonized provincial and federal review when a project is subject to assessment under both the BCEAA and the CEAA. The proposed Project is currently in the pre-Application stage of this harmonized environmental assessment process.

Vancouver Airport Fuel Facilities Corporation is required to prepare and submit an Application for a provincial Environmental Assessment Certificate pursuant to the BCEAA ("the Application"). The Application will also serve as a federal Screening Level Environmental Assessment Report pursuant to the CEAA, and will be prepared as outlined in this EAO-approved Application Information Requirements ("AIR") document.

This AIR document is intended to address the information content requirements for the proposed Project's Application. It has been developed based on "A Guide to the British Columbia Environmental Assessment Process" (EAO, March, 2003); "Proponent Guide to the Environmental Assessment Review Process (Working Draft)" (EAO, May, 2005); "A Guide to Preparing Terms of Reference for an Application for an Environmental Assessment Certificate" (EAO, September, 2007); "Environmental Assessment Office 2009 User Guide", "Application Information Requirements Template" (EAO, March 29 2010), and other guidance materials prepared by the EAO and the CEA Agency. The purpose of the AIR is to identify and describe the issues and information requirements that VAFFC will address in its Application, and not to provide a detailed account of all information that will be included under the various sections in the Application.

This AIR document has been revised based on comments received following review by the EAO and members of the Technical Working Group, which consists of representatives from federal, provincial, and local governments, and First Nations (**Table 1**), and based on comments received following review by the public during the formal 45-day draft AIR Public Comment Period, which commenced April 12, 2010, and ended midnight on May 27, 2010. Following the Public Comment Period, the draft AIR document was subject to further review and comment by members of the Technical Working Group. This document has now been finalized and approved by the EAO, and constitutes the approved AIR for VAFFC's Application.

Vancouver Airport Fuel Facilities Corporation has tracked and responded to all comments received during the preparation of the draft AIR that were submitted through the formal EAO-coordinated process, in consultation with the EAO, the CEA Agency, and members of the Technical Working Group, and has revised this AIR document accordingly.

The next step in the pre-Application stage of the environmental assessment process is the preparation and submission of VAFFC's draft Application for the EAO's screening against the information content requirements outlined in this AIR document. Following the EAO's acceptance of the draft Application for review, the Application Review stage will commence.

Vancouver Airport Fuel Facilities Corporation will comply with all relevant instructions provided in the orders issued by the EAO under sections 11 and 13 of the BCEAA, on November 18 and December 15, 2009, respectively.

As described in the order issued by the EAO on February 23, 2009, under section 10(1)(c) of the Act, VAFFC may not proceed with construction of the proposed Project until completion of the environmental assessment process.

Table 1 Agencies, Authorities, Departments, Organizations and First Nations Involved in the Development of the Application Information Requirements

FEDERAL
Canadian Environmental Assessment Agency
Transport Canada
Environment Canada
Fisheries and Oceans Canada
Health Canada
Vancouver Fraser Port Authority
Vancouver Airport Authority
PROVINCIAL
British Columbia Environmental Assessment Office
British Columbia Ministry of Environment
British Columbia Oil and Gas Commission
LOCAL AND REGIONAL
Metro Vancouver
Vancouver Coastal Health Authority
Fraser Health
City of Richmond
Corporation of Delta
FIRST NATIONS
Chemainus First Nation

FIRST NATIONS (Cont.)

Cowichan Tribes

Halalt First Nation

Hwilitsum First Nation

Kwantlen First Nation

Lake Cowichan First Nation

Lyackson First Nation

Musqueam First Nation

Penelakut First Nation

Semiahmoo First Nation

Tsawout First Nation

Tsawwassen First Nation

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ACKNOWLEDGEMENTS

This section of the Application will acknowledge regulatory agencies and authorities, First Nations, key stakeholders, VAFFC's proposed Project Team, and others who contributed to the development of the Application document.

PREFACE

The Preface to the Application will:

- *state that the proposed Project is subject to provincial environmental assessment under the BCEAA and identify the trigger(s) for the review;*
- *state that the proposed Project is subject to federal environmental assessment and identify the level and trigger(s) for the review;*
- *state that the proposed Project is subject to a harmonized provincial/federal environmental assessment and review pursuant to the “Canada-British Columbia Agreement for Environmental Assessment Cooperation (2004)”;*
- *state that the Application has been developed pursuant to the AIR, as approved by the EAO, with input from the Technical Working Group, CEA Agency and the public, and complies with the relevant instructions provided in the section 11 and 13 orders issued by the EAO;*
- *state that the Application has been developed pursuant to federal information requirements as communicated by the CEA Agency and defined by the federal Regulated Authority;*
- *identify the agencies, First Nations and other parties involved in the development of the Application; and*
- *include a table of concordance that cross-references the information presented in the Application with the information requirements identified in the AIR document.*

The following Preface has been prepared for this AIR document to provide a concise summary of the aforementioned information requirements, where known. This Preface will be updated and expanded in the Application, as appropriate.

The proposed Project is subject to environmental assessment under the BCEAA following a request by VAFFC to opt in to the provincial review process under section 7(1) of the Act on November 28, 2008. The EAO Executive Director issued an order under section 7(3)(a) of the Act on February 10, 2009 designating the proposed Project as “reviewable”. On February 23, 2009 an order was issued by the EAO Project Assessment Manager under section 10(1)(c) of the Act, stating that VAFFC may not proceed with construction of the proposed Project until completion of the environmental assessment process. On November 18, 2009, the EAO Project Assessment Manager issued an order under section 11 of the Act, determining the scope of the required environmental assessment and the procedures and methods for conducting the assessment. On December 15, 2009, the EAO Project Assessment Manager issued an order under section 13 of the Act, whereby the scope of the proposed Project and the scope of the assessment were amended from that described in the section 11 order.

The proposed Project is also subject to environmental assessment under the CEAA. The “trigger” for federal review is the requirement for Approval from the Port under section 3(1) of the *Canada Port Authority Environmental Assessment Regulations* due to VAFFC’s intent to lease Port lands for the development of the proposed fuel receiving facility and the required expansion in area to the existing Water Lot lease at the marine terminal. The federal environmental assessment will proceed at the Screening level, as communicated in an email issued to the EAO and VAFFC by the CEA Agency Project Manager dated March 08, 2010, and as described on the online CEA Registry at: <http://www.ceaa-acee.gc.ca/050/details-eng.cfm?evaluation=53860>.

As specified in a letter issued to VAFFC by the CEA Agency Project Manager dated September 08 2010, Transport Canada has determined that the marine terminal component of the proposed Project will require an Approval under Section 5(3) of the *Navigable Waters Protection Act*, which does not “trigger” a federal environmental assessment under the CEAA. The federal mandate, together with the provincial BCEAA designation, requires that the proposed Project is subject to a harmonized provincial/federal environmental assessment, pursuant to the “Canada – B.C. Agreement for Environmental Assessment Cooperation (2004)”. As such, VAFFC will prepare and submit an Application for EAO and CEA Agency review and Ministerial approval.

Vancouver Airport Fuel Facility Corporation commits to developing the Application pursuant to the AIR, as approved by the EAO, with input and direction from the CEA Agency, and in compliance with relevant instructions provided in the procedural and amendment orders issued by the EAO under sections 11 and 13 of the Act. Vancouver Airport Fuel Facility Corporation also commits to developing the Application pursuant to federal information requirements as communicated by the CEA Agency and/or federal Regulated Authority.

The agencies, authorities, departments, organizations and First Nations and other key parties expected to be involved in the development of the Application are listed below in **Table 2**, which will be updated in the **Preface** to the Application, as appropriate.

Table 2 Agencies, Authorities, Departments, Organizations and First Nations Expected to be Involved in the Development of the Application

FEDERAL
Canadian Environmental Assessment Agency
Transport Canada
Environment Canada
Fisheries and Oceans Canada
Health Canada
Vancouver Fraser Port Authority
Vancouver Airport Authority
PROVINCIAL
British Columbia Environmental Assessment Office
British Columbia Ministry of Environment
British Columbia Oil and Gas Commission
LOCAL AND REGIONAL
Metro Vancouver
Vancouver Coastal Health Authority
Fraser Health
City of Richmond
Corporation of Delta

FIRST NATIONS
Chemainus First Nation
Cowichan Tribes
Halalt First Nation
Hwilitsum First Nation
Kwantlen First Nation
Lake Cowichan First Nation
Lyackson First Nation
Musqueam First Nation
Penelakut First Nation
Semiahmoo First Nation
Tsawout First Nation
Tsawwassen First Nation

Vancouver Airport Fuel Facility Corporation commits to providing a table of concordance (see **Table 3**) in the **Preface** to the Application that cross-references the information presented in the Application with the information requirements identified in this approved AIR document. The table of concordance will be based around the following template as suggested by the EAO.

Table 3 Table of Concordance Example

APPROVED APPLICATION INFORMATION REQUIREMENTS (AIR) CHAPTER AND SECTION	DESCRIPTION OF RELEVANT CHAPTER AND SECTION	CORRESPONDING APPLICATION CHAPTER AND SECTION

ACRONYMS AND ABBREVIATIONS

A list of all necessary acronyms, abbreviations and units of measure used repeatedly in the text of the Application will be defined and provided in this section. Listed below are the acronyms, abbreviations and units of measure referenced in this AIR document, which will be updated, as required, in the Application.

Acronym/Abbreviation	Definition
Act	British Columbia <i>Environmental Assessment Act</i>
AIR	Application Information Requirements
Application	proposed Vancouver Airport Fuel Delivery Project Environmental Assessment Certificate Application/Screening Level Environmental Assessment Report
aviation fuel	aviation kerosene fuel
B.C.	British Columbia
BCEAA	British Columbia <i>Environmental Assessment Act</i>
CEAA	<i>Canadian Environmental Assessment Act</i>
CEA Agency	Canadian Environmental Assessment Agency
EAO	[British Columbia] Environmental Assessment Office
Fraser River	South Arm of the Fraser River
FREMP	Fraser River Estuary Management Program
fuel	aviation kerosene fuel
Port	Vancouver Fraser Port Authority (Port Metro Vancouver)
river	South Arm of the Fraser River
the proposed Project	the proposed Vancouver Airport Fuel Delivery Project
VAFFC	Vancouver Airport Fuel Facilities Corporation
YVR	Vancouver International Airport

GLOSSARY OF TERMS

A list of all necessary technical terms used in the text of the Application will be listed and defined in this section.

Term

Definition

EXECUTIVE SUMMARY

The Application will include an Executive Summary as a stand-alone section that presents a concise summary of:

- *Vancouver Airport Fuel Facilities Corporation;*
- *the proposed Project components, including facilities, associate activities, locations and maps;*
- *the Application and environmental assessment processes;*
- *consultation and information distribution activities undertaken by VAFFC with First Nations, members of the public, key stakeholders, regulatory agencies and authorities;*
- *key issues raised during these consultation activities and responses provided by VAFFC;*
- *key potential effects of the proposed Project and recommended mitigation measures;*
- *potential significant residual and cumulative effects; and*
- *conclusions from the effects assessment(s).*

The information presented will be sufficient to describe the proposed Project and the outcome of the effects assessment(s) and consultation activities so that those who may not wish to read the full Application can rely on the Executive Summary for a synopsis of the proposed Project.

The following Executive Summary has been prepared for this AIR document to provide a concise summary of VAFFC and the proposed Project, regulatory approvals, the environmental assessment process, and consultation activities undertaken to date. This Executive Summary will be updated and expanded in the Application, as appropriate.

Introduction and Background

Vancouver International Airport has experienced tremendous growth over the last two decades, driving an increase in the demand for aviation fuel. Over the same period of time, local refining capacity has declined to the point where international sources now supply the majority of fuel for YVR. In the future, any increase in the demand for fuel will, of necessity, be supplied from international sources. The existing fuel delivery system to YVR is inadequate to meet forecast demand and is currently supplemented by up to 35 tanker trucks each day (daily tanker truck deliveries increased by about 50% during the 2010 Winter Olympics). Without a new fuel delivery system, any incremental growth in fuel demand at YVR will need to be met by additional tanker truck deliveries.

Vancouver Airport Fuel Facility Corporation is a not-for-profit company owned by a consortium of international and domestic commercial airlines that operate at YVR. Vancouver Airport Fuel Facilities Corporation owns and operates fuel storage and distribution facilities at YVR, and has over 20 years of experience in fuel handling activities at YVR. Similar fuel facility corporations operate at all major international airports across Canada. Each member airline purchases fuel for its own use and arranges its delivery to the VAFFC fuel facilities at YVR, either through the existing pipeline delivery system or via tanker trucks. Vancouver Airport Fuel Facilities Corporation manages the storage and handling of each airline's fuel and ensures its delivery to the airline's respective aircraft.

Proposed Project Overview

Vancouver Airport Fuel Facilities Corporation regularly reviews future requirements at YVR as part of its ongoing system planning for fuel delivery, and has looked at various alternatives for a new fuel delivery system capable of meeting YVR's demand over the long-term. A range of potential delivery options were evaluated that included combinations of marine, rail, tanker truck, and pipeline modes of delivery to bring fuel to YVR. A common and critical component of the top-ranked options was secure access to offshore marine shipments. The proposed Project evolved from this preliminary work.

Vancouver Airport Fuel Facilities Corporation proposes to develop a new aviation fuel delivery system project located in the City of Richmond, Lower Mainland, B.C. (**Figure 1**) that will:

- reduce the footprint of activity currently required to maintain fuel delivery;
- secure long-term flexible access to a broad range of competitive offshore international fuel supply sources; and
- meet the forecast long-term demand for fuel at YVR.

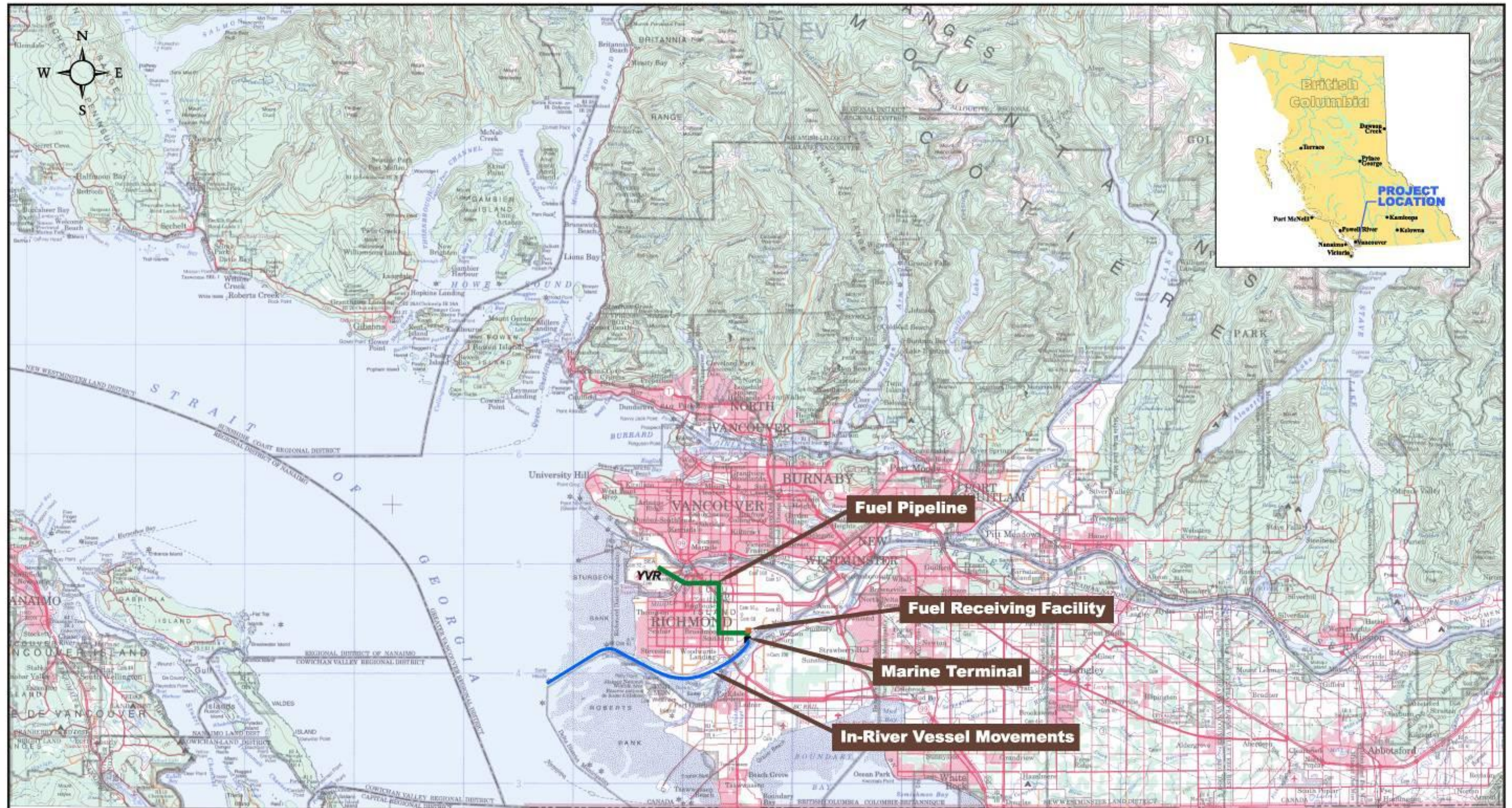


Figure 1 Vancouver Airport Fuel Delivery Project Location

Source: Adapted from: Natural Resources Canada, National Topographic System, Map 92G, Vancouver, 1995

The proposed Project has three (3) infrastructure components:

1. Upgrade and Operation of a Marine Terminal

Vancouver Airport Fuel Facility Corporation owns a waterfront property with an existing marine terminal wharf and Water Lot Lease on the north shore of the Fraser River, approximately 2 kilometres east of Highway 99 and 1 kilometre north of Steveston Highway. The marine terminal wharf is located on industrially zoned land (I-1 Industrial District) and was constructed by a previous owner to accommodate vessels up to 30,000 dead weight tonnes. To optimize flexibility and security of future fuel supply to YVR, VAFFC proposes upgrades to the marine terminal property to accommodate fuel cargo shipments on a range of vessel types and sizes, from barges to Handysize tankers, and potentially up to partly-laden Panamax-class tankers in the 60,000 to 80,000 dead weight tonne category.

Upgrades, which are also required to satisfy current standards, codes and seismic design criteria, are expected to consist of structural strengthening of the existing marine terminal wharf, installation of new breasting and mooring infrastructure, construction of fuel off-loading and transfer facilities and equipment, and minor dredging of the riverbed at the face of the berthing structure. Infrequent and routine operational-phase dredging of the riverbed between the navigation channel and the terminal berth may be required to ensure adequate underkeel clearance for larger Panamax-class vessels during all river conditions. Spill and fire prevention, preparedness and emergency response planning will be incorporated into the design.

A conceptual rendering of how the proposed upgraded marine terminal could look is shown in **Figure 2**.



Figure 2 Conceptual Rendering of how the Upgraded Marine Terminal could look with a Berthed Panamax-Class Tanker

2. Construction and Operation of a Fuel Receiving Facility

The marine terminal property is not well configured or sized for the accommodation of fuel storage. Vancouver Airport Fuel Facilities Corporation is consulting with the Port with the intent to lease an upland portion of Port-owned industrially zoned land (I-1 Industrial District) to construct and operate/maintain a new fuel receiving facility.

The potential lease area is located adjacent and northeast of VAFFC's marine terminal property. The facility will include six above ground steel tanks situated within a secondary containment compound and will have a total storage capacity of approximately 80 million litres (500,000 barrels). The proposed lease area will be able to accommodate a further two tanks as determined by distant future fuel demand at YVR.

A conceptual rendering of how the proposed fuel receiving facility could look is shown in **Figure 3**.



Figure 3 Conceptual Rendering of how the Proposed Fuel Receiving Facility could look

3. Construction and Operation of Fuel Pipelines

Vancouver Airport Fuel Facilities Corporation proposes to construct a short pipeline to transfer off-loaded fuel from the marine terminal to the fuel receiving facility, and an approximate 15 kilometre long pipeline to deliver fuel from the fuel receiving facility to

YVR. With the exception of the crossing under Williams Road, the transfer pipeline will be located entirely on industrially zoned land (i.e., I-1 Industrial District), either owned by VAFFC or leased by VAFFC from the Port. The transfer pipeline is expected to be constructed on a raised pipe rack on VAFFC's marine terminal property, cross under Williams Road and continue underground to the fuel receiving facility.

The delivery pipeline will be constructed under existing transportation and/or utility corridors in the City of Richmond. Where major road and waterway crossings are required (e.g., Highway 99 and the Moray Channel in the Middle Arm of the Fraser River), the pipeline is expected to be installed by directional drilling underground to assist with the mitigation of potential environmental and heritage effects, and avoid disruption of road and waterway traffic.

Vancouver Airport Fuel Facilities Corporation has identified a preferred alignment for the proposed fuel delivery pipeline, which will connect the proposed fuel receiving facility with the VAFFC facilities located at YVR (**Figure 4**).

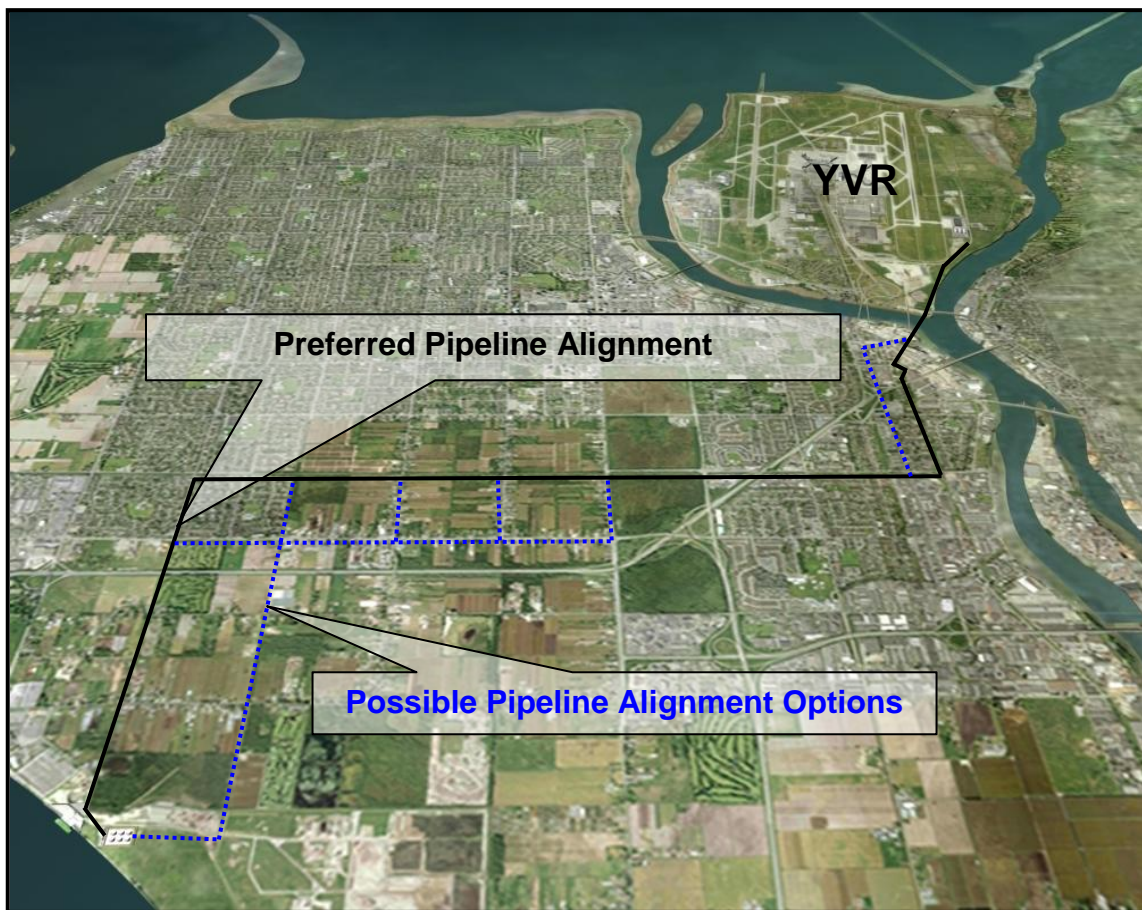


Figure 4 Preferred Pipeline Alignment and Possible Routing Alternatives

The alignment goes west from the proposed fuel receiving facility along the Williams Road corridor, then north along the Shell Road corridor and west along the Bridgeport Trail corridor to the Moray Channel crossing. Within the south-to-north Shell Road corridor portion, subject to conditional agreement with the current owner, VAFFC proposes to install the pipeline within the existing Canadian National Railway right-of-way, which runs parallel to Shell Road between Williams Road and the Bridgeport Trail. Vancouver Airport Fuel Facilities Corporation has entered into a conditional purchase agreement with Canadian National Railway to acquire that portion of the right-of-way, which is scheduled to be decommissioned as a railway. This would account for approximately 40% of the entire pipeline route.

Similar to the existing Trans Mountain (Jet Fuel) Inc. fuel delivery pipeline corridor, the pipeline will cross under the Moray Channel. It will then follow under or adjacent to existing airport service roads on Sea Island to reach VAFFC's fuel facilities at YVR. The pipeline alignment will avoid the Sea Island Conservation Area.

Possible alternative route alignments within this general corridor may exist (e.g., west along the Francis Road corridor to the No.5 Road corridor or Shell Road corridor, north along the No.5 Road corridor to Blundell Road, Granville Avenue or Westminster Highway, and west along the Bridgeport Road corridor to reach the crossing of the Moray Channel) and VAFFC will continue to investigate and consult on options through the EAO review process before selecting a final route for detailed design.

Marine Shipments

Similar to the many shipments of liquid petroleum hydrocarbons that transit the waters offshore of the Lower Mainland, aviation fuel cargo vessels currently servicing the existing fuel delivery system are passing by Roberts and Sturgeon banks, the mouth of the Fraser River, YVR and Stanley Park, and through the First and Second Narrows to off-load and transfer fuel cargo at Westridge Marine Terminal located in Burrard Inlet, approximately 5.5 kilometres (3.4 miles) east (upriver) of the Iron Workers Memorial Bridge. During the operations/maintenance phase of the proposed Project, these existing fuel cargo shipments will be redirected from their transit route in the Strait of Georgia to the proposed marine terminal via the Fraser River's deep-sea navigation channel. Over the foreseeable future, these vessels are expected to service the proposed Project. Handysize tankers, and potentially partly-laden Panamax-class tankers, are anticipated over the longer-term as determined by future demand for fuel at YVR and sources of international fuel supplies.

Regulatory Approvals

In response to a request made by VAFFC to opt in to the provincial environmental assessment process for the review of the proposed Project, the EAO Executive Director

issued an order under section 7(3)(a) of the BCEAA on February 10, 2009 designating the proposed Project as “reviewable”. On February 23, 2009 an order was issued by the EAO Project Assessment Manager under section 10(1)(c) of the Act, stating that VAFFC may not proceed with construction of the proposed Project until completion of the environmental assessment process. On November 18, 2009, the EAO issued an order under section 11 of the Act, determining the scope of the required environmental assessment and the procedures and methods for conducting the assessment. On December 15, 2009, the EAO issued a further order under section 13 of the Act, whereby the scope of the proposed Project and the scope of the assessment were amended from that described in the section 11 order.

The proposed Project also requires approval from the Port for the intent to lease Port lands for the construction and operation/maintenance of the proposed fuel receiving facility and the required expansion of the existing Water Lot lease at the marine terminal, both of which “trigger” a federal environmental assessment review, under the *Canada Port Authority Environmental Assessment Regulations*.

On May 14, 2009 a letter was issued to VAFFC from the CEA Agency Project Manager, stating that Transport Canada’s Navigable Waters Protection Program may require an Approval under Section 5(2) of the *Navigable Waters Protection Act* for the marine terminal component of the proposed Project. On September 08, 2010, the CEA Agency issued a further letter confirming that a section 5(2) Approval was not required for the marine terminal component and that following consultation with the Port and the Fraser River Pilots a section 5(3) Approval under the *Navigable Waters Protection Act* will instead be required. A section 5(3) Approval does not “trigger” a federal environmental assessment of the proposed Project under the CEAA.

As such, the Port is the sole designated “Responsible Authority” (referred to as a Regulated Authority under the *Canada Port Authority Environmental Assessment Regulations*), responsible for determining how the federal assessment of the proposed Project will be undertaken. Transport Canada and Environment Canada are expected to provide expert advice to the Port in the role of Federal Authority’s.

The federal review will proceed at the Screening Level as specified by the CEA Agency Project Manager. Vancouver Airport Fuel Facility Corporation will prepare and submit an Application for EAO and CEA Agency review and Ministerial approval.

Based on the information contained in the Project Description Report prepared by VAFFC (January 16, 2009) regarding potential upgrades to the marine terminal, and the proposed method of directional drilling underground for the pipeline crossing of the Moray Channel, Fisheries and Oceans Canada has confirmed that an Authorization under Section 35(2) of the *Fisheries Act* is not required for the proposed Project.

VAFFC will continue to consult with Fisheries and Oceans Canada on the proposed Project through the EAO review process.

The harmonized environmental assessment process will address the various disparate federal, provincial and inter-governmental jurisdictional interests in the proposed Project, and enable a coordinated review from the government agencies, authorities and First Nations that form part of the Technical Working Group established by the EAO. Members of the Technical Working Group include those with interests administered by the Port, Vancouver Airport Authority, Transport Canada, Environment Canada, Fisheries and Oceans Canada, Health Canada, Fraser River Estuary Management Program (“FREMP”), B.C. Oil and Gas Commission, B.C. Ministry of Environment, City of Richmond, and twelve First Nations.

The first Technical Working Group meeting was held in Richmond on April 08, 2009. During this meeting, VAFFC presented the Technical Working Group with an overview of the proposed Project, including a site tour of the proposed Project components. The EAO and the CEA Agency also presented the Technical Working Group with a summary of the provincial and federal environmental assessment and review processes, respectively. A second meeting was held on December 14, 2009, where VAFFC presented the Technical Working Group with an update on the proposed Project and studies undertaken to date. A third meeting was held on June 07, 2010, where VAFFC presented the Technical Working Group with the proposed approach and methodology for spill modelling and fate and effects analysis.

The various jurisdictional interests in the proposed Project are summarized below.

Vancouver Fraser Port Authority

The proposed Project requires Approval by the Port under Section 3(1) of the *Canada Port Authority Environmental Assessment Regulations*. The Port Approval is “triggered” by VAFFC’s intent to lease Port-administered lands for the proposed fuel receiving facility and the required increase in area of the existing Water Lot lease. The Port will participate in the harmonized BCEAA/CEAA review process as the lead federal Regulated Authority.

The Port will also conduct a review of the proposed fuel receiving facility to be constructed and operated/maintained on Port lands as part of its project development approval process. For dredging of the riverbed outside of the navigation channel, VAFFC will submit a dredging application to the Port as part of its dredging approval process. The Port will also review navigation considerations within the Fraser River.

Vancouver Airport Authority

Vancouver Airport Authority will conduct an engineering review and environmental assessment of proposed pipeline and associated infrastructure to be constructed and operated/ maintained on airport lands as part of its development permit and facility permit approvals processes. Vancouver Airport Authority will participate in the harmonized BCEAA/CEAA review process.

Fraser River Estuary Management Program

The proposed marine terminal upgrades will involve works in the deep water reaches of the river and in upland areas of VAFFC's property that are riverside of the dike. Therefore, the FREMP Track 2 Environmental Review Committee Coordinated Project Review process will be triggered by these works. The FREMP review process will defer to the overarching harmonized BCEAA/CEAA process for which FREMP committee members are also members of the EAO's Technical Working Group.

The proposed fuel delivery pipeline will be installed by directional drilling underground for the crossing of the Moray Channel to assist with the mitigation of potential environmental and heritage effects, and to avoid disruption of road and waterway traffic. A FREMP Environmental Review Committee process is not expected to be triggered for this crossing.

For dredging at the marine terminal, VAFFC's dredging application to the Port will be reviewed concurrently by the FREMP Environmental Review Committee.

B.C. Oil and Gas Commission

Vancouver Airport Fuel Facilities Corporation will submit a concurrent application to the B.C. Oil and Gas Commission for approval to construct and operate/maintain the proposed fuel pipelines, including the fuel off-loading and transfer facilities at the marine terminal, and fuel receiving facility under the B.C. *Pipeline Act*¹.

City of Richmond

The City of Richmond, under its development permit process, will review the marine terminal upgrades and participate in the review of pipeline design and alignment through Richmond. A Municipal Access Agreement will be required from the City for sections of the pipeline located on City property.

¹ The B.C. *Pipeline Act* will be repealed by the B.C. *Oil and Gas Commission Act* when it comes into force, which is expected to occur late 2010.

Environmental Assessment

For the purposes of environmental assessment under the harmonized BCEAA/CEAA review process the scope of the proposed Project, as defined in the section 11 and 13 orders issued by the EAO, consists of the following on-site and off-site components and activities:

1. upgrade of an existing marine terminal;
2. construction and operation of new facilities at the marine terminal for off-loading aviation fuel;
3. construction and operation of a new aviation fuel receiving facility;
4. construction and operation of a new fuel transfer pipeline from the marine terminal to the aviation fuel receiving facility;
5. construction and operation of a new fuel delivery pipeline from the aviation fuel receiving facility to YVR; and
6. movement of vessels transporting aviation fuel within the South Arm of the Fraser River to and from the marine terminal, including fuel off-loading and transfer at the marine terminal.

The movement of aviation fuel cargo on vessels will be a new operational activity within the river. Although fuel cargo vessels will not be owned or controlled by VAFFC, their presence in the river will be a direct cause of the proposed Project. Therefore, the portion of this activity occurring within the Fraser River is included in the scope of the proposed Project. The spatial limit for the assessment of this component scope is from Sand Heads located at the river mouth (kilometre mark 0 in the river's navigation channel), approximately 21 kilometres upriver (east) to the marine terminal, and will include areas of the river required for the activities associated with vessel manoeuvring.

The scope of the environmental assessment, as defined in the section 11 and 13 orders, includes consideration of potential adverse environmental, economic, social, heritage, and health effects, including spill management control and emergency response, and practical means to prevent or reduce to an acceptable level any such potential adverse effects. It also includes assessment for significance of any residual effects following mitigation, potential adverse effects on First Nations' interests and, to the extent appropriate, ways to avoid, mitigate or otherwise accommodate potential adverse effects.

As described in the section 11 order, one or more components of the proposed Project are located within the "Tsawwassen Territory" as defined by the *Tsawwassen First*

Nation Final Agreement Act, S.B.C. 2007, c. 39. Therefore, the scope of the environmental assessment is intended to satisfy applicable requirements of Chapter 15 of the *Tsawwassen First Nation Final Agreement Act*.

Discipline-specific effects assessment studies will be undertaken to describe the general setting of the proposed Project, identify baseline conditions and characteristics, assess potential effects, recommend acceptable mitigation measures and management strategies, and identify significant residual effects and potential cumulative impacts. These studies will form the effects assessment chapters in **Part B: Assessment of Project Effects, Mitigation and Significance of Residual Effects** of the Application.

Since the proposed Project will have an indefinite lifespan, decommissioning or abandonment of permanent proposed Project-related infrastructure will not be considered in the Application. It is anticipated that a separate decommissioning plan would be required prior to any decommissioning of proposed Project components to evaluate potential effects, based on environmental, social, economic, heritage and health values, public interests, characteristics and legislative requirements relevant at that time. However, any dismantling and/or removal of temporary structures that may be required during the construction phase will be described and assessed in the Application.

In addition to the effects assessment chapters in **Part B: Assessment of Project Effects, Mitigation and Significance of Residual Effects** of the Application, and in accordance with federal requirements, the Application will include assessment of potential environmental effects from accidents or malfunctions, assessment of potential cumulative environmental effects, and assessment of potential effects of the environment on the proposed Project.

The Application will also include an assessment of in-river navigation for vessels expected to service the proposed Project, an analysis of the probability and risk of an accidental aviation fuel release during operations, and spill prevention, preparedness and emergency response planning for all proposed Project components. The predicted behaviour and potential effects of aviation fuel cargo on the biophysical resources of the Fraser River, and beyond, as a result of an accidental fuel release incident in the river, will be addressed under a separate chapter in the Application (**Chapter 19: Fate and Effects Analysis**).

The study area boundary for the fate and effects analysis will be determined by the results of detailed spill modelling, undertaken to determine the expected reach of worst-case release scenarios from a Panamax-class tanker located near Sand Heads, Steveston Bend and the George Massey Tunnel, and for worst-case release scenarios located at the marine terminal during the process of fuel cargo off-loading and transfer.

Sand Heads was selected as one of the fuel release locations for the spill modelling because this is the approximate area where a change in vessel pilotage will occur. Steveston Bend and the George Massey Tunnel were selected to represent accidental fuel release locations for the spill modelling due to their proximity to sensitive areas (i.e., the Sturgeon and Roberts banks, Westham Island and the South Arm Marshes). The marine terminal was also selected as one of the fuel release locations for the spill modelling as this is where the fuel cargo off-loading and transfer processes will occur.

The spill modelling scenarios will account for seasonality and the varying environmental and physical river conditions, and shoreline types, associated with the lower Fraser River and the Strait of Georgia in the analysis of fate and effects.

As a consequence of the proposed Project, the existing vessel transit distance of fuel cargo shipments in Canadian waters will be significantly reduced. The proposed Project will also eliminate the need for the existing fuel delivery pipeline system and tanker truck traffic on local roads. These elements will also be included in the Application.

Consultation

A website has been developed for the proposed Project (<http://www.vancouverairportfuel.ca>) and an email address (info@vancouverairportfuel.ca) has been created to facilitate the transfer of proposed Project-related information and assist with public attitude surveys and feedback. Telephone, facsimile and written correspondence details are also posted on this website to provide alternative means of communication. Vancouver Airport Fuel Facilities Corporation will track and respond to all public and First Nation comments, gather information regarding heritage, environmental and community values associated with the proposed Project, and, in consultation with the EAO and members of the Technical Working Group, identify issues to be addressed in the Application.

Public

In September and October 2008, prior to the EAO's designation of the proposed Project as "reviewable" and in advance of broader consultation, VAFFC distributed a Project Backgrounder document to various community and business groups likely to have an interest in the proposed Project. The purpose of this document was to provide information and an update on the proposed Project, and to provide the opportunity in follow-up meetings for input from representatives of the business community and environmental and recreational interest groups regarding proposed Project-related issues and concerns.

In February and March 2009, following the EAO's designation of the proposed Project as "reviewable", VAFFC held four Public Information Sessions in Richmond to introduce

the proposed Project concept and receive general feedback from the public. Brochures were also mailed out to various stakeholders and were made available for the general public at the Information Sessions, along with feedback forms. The comments received during these sessions were recorded and are reflected in this dAIR document. A copy of the Public Information Sessions Summary is included in **Appendix A**.

Through to the summer of 2009, VAFFC continued to share information about the proposed Project with community, business and other stakeholders. Comments received were recorded and are also reflected in this dAIR document. A copy of the Stakeholder Outreach Summary Report is included in **Appendix B**.

During the pre-Application stage for the proposed Project, VAFFC will also implement a public consultation program to include group stakeholder meetings, open houses, media information inserts, and focus groups.

First Nations

In July 2008, VAFFC sent an introductory letter to First Nations identified as having a potential interest in the proposed Project, requesting an opportunity to meet. Meetings with these First Nations occurred in the summer and fall months of 2008. In these meetings, the proposed Project was described together with a discussion on the approaches to consultation.

First Nations to be consulted by VAFFC were later confirmed by the EAO. At the commencement of the pre-Application stage, the EAO invited twelve First Nations to join the Technical Working Group and participate in the proposed Project's review process. All have identified traditional territory in or within the vicinity of the proposed Project. First Nations include Chemainus First Nation, Cowichan Tribes, Halalt First Nation, Hwilitsum First Nation, Kwantlen First Nation, Lake Cowichan First Nation, Lyackson First Nation, Musqueam First Nation, Penelakut First Nation, Semiahmoo First Nation, Tsawout First Nation, and Tsawwassen First Nation all of which are expected to participate in the review of the proposed Project as members of the Technical Working Group. The section 11 and 13 orders issued by the EAO instruct VAFFC to meaningfully consult with identified First Nations about the proposed Project's potential effects.

VAFFC has entered into capacity and consultation understandings with the majority of First Nations to facilitate their meaningful involvement in the EAO-coordinated review process for the proposed Project. Capacity and consultation understandings with remaining First Nations are expected to follow. In August 2009, all First Nations were invited to participate in an Archaeological Overview Assessment fieldtrip, which was conducted as part of the proposed Project's environmental effects assessment study of Archaeological, Historical and Heritage Resources. In September 2009, VAFFC also

invited First Nations to participate in a VAFFC-sponsored boat tour of the Fraser River. The Archaeological, Historical and Heritage Resources Assessment will be shared with First Nations once the report is finalized, as a chapter within the Application.

Throughout the pre-Application stage, and following discussion with the EAO, VAFFC will continue to meet and consult with representatives of First Nations to provide information about the proposed Project, respond to questions and concerns, and gather information regarding practices, traditions and customs that have been practiced in the past, or are currently practiced, within the proposed Project area. Vancouver Airport Fuel Facilities Corporation will seek to identify First Nation concerns and issues to be addressed in the Application. Information requirements and issues raised by First Nations during the dAIR comment period are reflected in this revised dAIR document, where appropriate.

PART A – INTRODUCTION AND BACKGROUND

1 Purpose and Organization of the Application

In this chapter of the Application, VAFFC commits to providing a discussion of the purpose and understanding of:

- *the environmental assessment and review processes;*
- *the AIR; and*
- *the Application.*

This chapter will also indicate that the Application fulfills the federal requirements for an environmental assessment decision, in addition to the requirements of the provincial review process.

The following sections for this chapter are proposed, which may include additional subsections in the Application.

1.1 Introduction

This section will provide an introduction and background to the purpose and organization of the Application.

1.2 Purpose and Understanding of the Environmental Assessment Process

This section will outline the BCEAA and the CEAA review processes designed to identify and assess potential effects associated with the proposed Project to ensure that proposed Project-specific mitigation measures are developed for managing those effects.

1.3 Purpose and Understanding of the Application

This section will state that the EAO issued approved AIR for the proposed Project, and the date this was issued. It will state that the approved AIR and Application were prepared in accordance with the orders issued by the EAO for the proposed Project, and that the approved AIR identifies information that is included in the Application to meet the requirements of both the BCEAA and the CEAA.

This section will also state that the Application is submitted to the EAO pursuant to section 16 of the BCEAA.

1.4 Basis for Project Review

This section will describe the basis for the application of provincial and federal legislation for an environmental assessment of the proposed Project under the BCEAA and the CEAA, respectively.

1.5 Application Layout

This section will provide a clear concise description and rationale for the layout and format of the Application consistent with the requirements of the EAO, including a summary of which chapters may be found in separate volumes, should the Application be of such a size that more than one volume is necessary to present all the required information.

1.6 References

This section will include a list of all supporting references used in this chapter of the Application, if applicable.

2 Proposed Project Information

This chapter of the Application will:

- *provide a detailed description of VAFFC, including history, type of company, affiliations, and contact information, including contact names, addresses, telephone numbers, fax numbers and e-mail addresses;*
- *provide the names(s) and contact information for individuals responsible for managing the proposed Project's environmental assessment requirements, and also indicate where information in the Application has been prepared by a suitably qualified professional;*
- *provide reference to the BCEAA, the CEAA and the Canada Port Authority Environmental Assessment Regulation trigger(s), including the level of federal environmental assessment required;*
- *provide a background and rationale for the proposed Project, including a description of the existing fuel delivery system;*
- *describe proposed Project components and infrastructure and access requirements, and the activities associated with their construction and operations/maintenance, including the longitude and latitude of components and maps showing both regional context and site-specific setting;*
- *identify the distance to nearby communities and note the communities on the regional map, as appropriate;*
- *describe alternative means of undertaking the proposed Project in accordance with CEA Agency guidelines;*
- *summarize existing land use in the proposed Project area;*
- *describe the applicable permits, licenses and approvals required for the proposed Project; and*
- *describe the proposed Project delivery mechanism, design criteria, plan and schedule, capital costs and financing, and estimated direct labour force, for construction and operations/maintenance.*

Although the proposed Project will remain at the conceptual design stage during the environmental assessment process, the description of the proposed Project will be presented in sufficient detail to enable a meaningful assessment of potential effects. It

is understood that, while detailed design information will be required at the permitting stage, it is not normally required for environmental assessment purposes.

The scope of the provincial review is confirmed in the orders issued by the EAO under sections 11 and 13 of the BCEAA. A separate determination regarding the federal scope of the proposed Project is made by the CEA Agency and federal Responsible Authority. Any differences between the federal and provincial scope will be described in this section of the Application.

Should VAFFC significantly amend the proposed Project Description, which was provided to the EAO by VAFFC at the beginning of the pre-Application stage, later in the review process, the section 11 and 13 orders and the proposed Project scope may require revision.

The following sections of this chapter, which may include additional subsections, are populated with the relevant information, consistent with the information requirements for the Application, where this information is currently known.

2.1 Introduction

This section will provide an introduction and background to the proposed Project.

2.2 Proponent Information

2.2.1 Introduction and Background

Vancouver Airport Fuel Facilities Corporation is a not-for-profit company owned by a consortium of international and domestic commercial airlines that operate at YVR. Currently, there are twenty-six consortium members as listed in **Table 4**.

Table 4 List of Current VAFFC Member Airlines (as of October 2010)

1. Air Canada	2. China Airlines Ltd.	3. Korean Air
4. Air China International Corp.	5. Continental Airlines Inc.	6. Sunwing Airlines Inc.
7. Air North Charter & Training Ltd.	8. Delta Air Lines, Inc.	9. Philippine Airlines, Inc.
10. Air Transat A.T. Inc.	11. Deutsche Lufthansa AG	12. Skyservice Airlines Inc.
13. Alaska Airlines, Inc.	14. Eva Air Corp.	15. United Air Lines, Inc.
16. US Airways	17. Globespan Airways Ltd.	18. WestJet Airlines
19. American Airlines, Inc.	20. Skywest Airlines	21. CargoJet Canada Ltd.
22. British Airways PLC	23. Japan Airlines Company Ltd.	24. KLM (Koninklijke Luchtvaart Maatschappij n.v.)
25. Jazz Air Limited Partnership	26. Cathay Pacific Airways Ltd.	

Vancouver Airport Fuel Facilities Corporation owns and operates fuel storage and distribution facilities at YVR, and has over 20 years of experience in fuel handling activities at YVR. Similar fuel facility corporations operate at all of the major international airports across Canada. Vancouver Airport Fuel Facilities Corporation 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 fuel infrastructure.

The consortium structure provides efficient sharing of costs and risks between member airlines. Although membership may vary with the airlines use at YVR, the VAFFC structure remains stable over time. Vancouver Airport Fuel Facilities Corporation has invested over CAD \$40 million in fuelling infrastructure at YVR over the last 15 years, and capital financing of up to CAD \$100 million is attainable with VAFFC's financial structure.

2.2.2 Responsibilities

Vancouver Airport Fuel Facilities Corporation's fuel facilities at YVR include a four-tank storage facility and tanker truck offloading rack system, an airside tanker truck loading compound, an extensive underground pipeline hydrant system to transfer fuel from VAFFC's tanks to airside fuelling aprons, and a maintenance and administration facility (**Figure 5**). The VAFFC fuel storage tanks receive fuel supply from the existing Trans Mountain (Jet Fuel) Inc. fuel pipeline and storage delivery system, and from daily tanker truck deliveries from the Cherry Point refinery in Washington State.

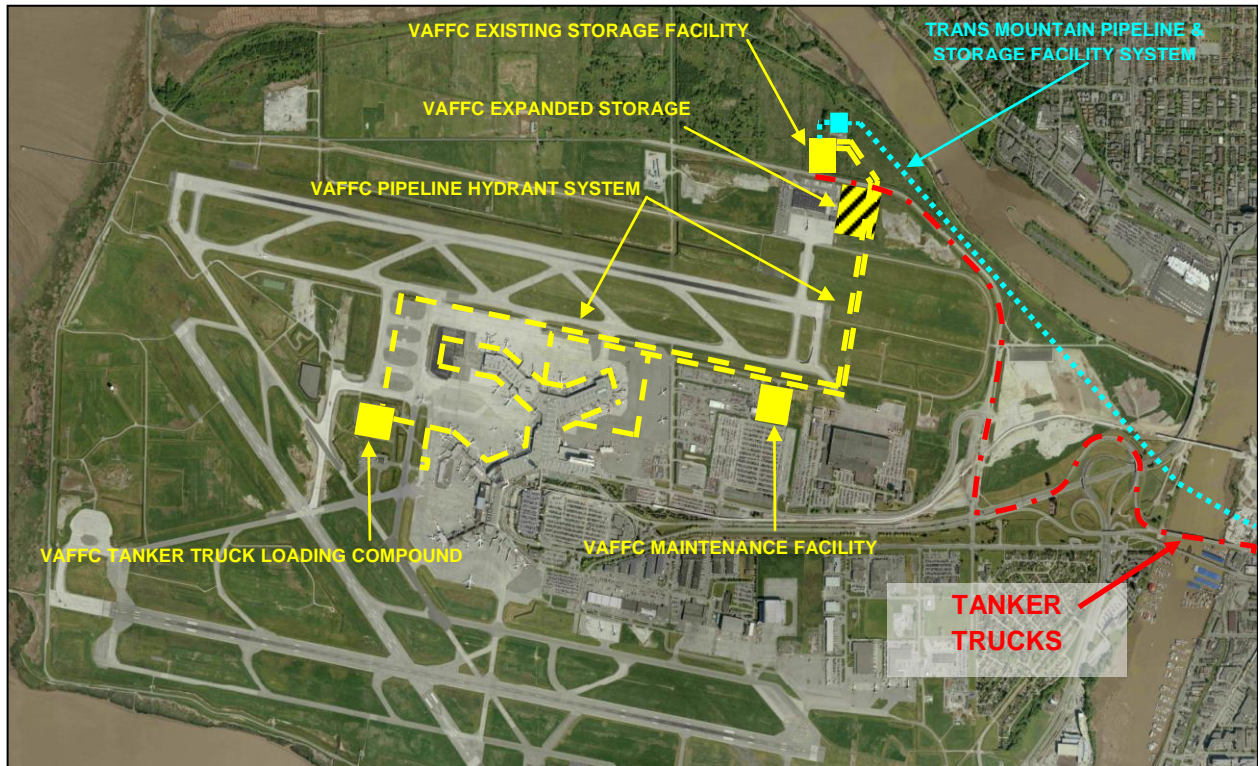


Figure 5 Overview of the Fuel Facility System at YVR

Vancouver Airport Fuel Facilities Corporation operates the only fuel facility system servicing YVR's main terminal and therefore provides fuel delivery service to all airlines using that terminal. Non-member airlines receive fuel delivery service from VAFFC on a fee-for-service basis.

Each member airline purchases fuel for its own use and arranges its delivery to the VAFFC fuel facilities at YVR, either through the existing delivery pipeline system or via tanker trucks. Vancouver Airport Fuel Facilities Corporation manages the storage and handling of each airline's fuel and ensures its delivery to the airline's respective aircraft.

On behalf of its member airlines, VAFFC is responsible for:

- operating and maintaining the fuel facility system at YVR;
- working with the Vancouver Airport Authority planning group and Transport Canada to develop fuel demand forecasts;
- directing new investment, maintaining insurance, and structuring debt;
- planning, constructing and operating safe, reliable and cost-effective fuel infrastructure to meet near and long-term demand projections; and

- obtaining regulatory approvals, permits and licenses as they relate to fuel system expansion and/or development.

Vancouver Airport Fuel Facilities Corporation is currently in the process of expanding its fuel storage at YVR (see **Figure 5**), which will improve on-airport fuel reserve capacity from 1.5 days to approximately 5 days during peak demand periods. New storage is expected to be operational in 2010/11. Vancouver Airport Fuel Facilities Corporation has also recently expanded its underground fuel hydrant system in step with the Vancouver Airport Authority’s expansion of the domestic passenger terminal building at YVR.

2.2.3 Project Representatives

The proposed Project is managed by FSM Management Group Inc., who is responsible for administrating the day-to-day operation of VAFFC’s activities and facilities at YVR. FSM Management Group specializes in the planning and management of fuel-related projects and infrastructure across Canada. The Technical Lead, Hatch Ltd., is responsible for managing and coordinating the environmental component of the proposed Project.

The primary contacts for the proposed Project are as follows:

Project Director

Mr. Adrian Pollard, P.Eng.

Project Director (VAFFC)

c/o FSM Management Group Inc.

Unit 103 - 12300 Horseshoe Way

Richmond, British Columbia V7A 4Z1

Tel: (604) 271-7113

Fax: (604) 271-8006

Email: apollard@vancouverairportfuel.ca

Technical Lead

Mr. Angus Johnston, M.Sc., R.P.Bio.

Project Environmental Manager

Environmental Services Group, Hatch Ltd.

400 – 1066 West Hastings Street

Vancouver, British Columbia V6E 3X2

Tel: (604) 689-5767

Fax: (604) 689-3918

Email: angus.johnston@hatch.ca

The following expert consultants listed in **Table 5**, which will be updated as required in the Application, will be assisting in the preparation of discipline-specific environmental and other technical studies in support of the Application:

Table 5 Preliminary List of Specific Professional Contributions to the Application

Consultant	Discipline Area	Application Chapter
Moffat and Nichol	Marine Terminal Conceptual Design	Chapter 2
Chinook Engineering	Fuel Receiving Facility Conceptual Design	Chapter 2
Chinook Engineering	Fuel Pipeline Conceptual Design	Chapter 2
National	Public Consultation	Chapter 3
Hatfield Consultants	Fisheries, Aquatics and Water Quality Assessment	Chapter 5
Robertson Environmental	Vegetation, Wildlife and Wildlife Habitat Assessment	Chapter 5
RWDI Air	Air Quality Assessment	Chapter 5
BKL Consultants	Noise Assessment	Chapter 5
Pottinger Gaherty Environmental Consultants	Screening Level Contaminated Sites Assessment	Chapter 5
Pierce Lefebvre Consulting	Socio-Community and Socio-Economic Assessment	Chapter 6
Arcas Consulting Archeologists (now AMEC)	Archaeological, Historical and Heritage Resources Assessment	Chapter 7
AMEC	Human Health Effects Assessment	Chapter 8
Cornerstone Planning Group	First Nations	Chapter 3, and 10 to 14
S.L. Ross Environmental Research	Spill Probability and Risk – Marine Components	Chapter 16

Consultant	Discipline Area	Application Chapter
Hatch Mott MacDonald	Spill Probability and Risk – Upland Components	Chapter 16
EmergWest Consulting	Spill Prevention, Preparedness and Emergency Response – Marine Components	Chapter 17
Hatch Mott MacDonald	Spill Prevention, Preparedness and Emergency Response – Upland Components	Chapter 17
Hatch Mott MacDonald	Fire Prevention, Preparedness and Emergency Response	Chapter 18
Hay and Company Consultants	Spill Modelling	Chapter 19
Coastal and Ocean Resources	Fate and Effects Analysis	Chapter 19
Moffat and Nichol	Navigation Assessment	Chapter 20

2.3 Project Background and Rationale

2.3.1 Existing Vessel Movements of Petroleum Hydrocarbons

This subsection will provide an overview of the existing vessel transportation of liquid petroleum hydrocarbons in local waters.

2.3.2 Existing Fuel Delivery System

This subsection will describe the current fuel delivery system servicing YVR, including facilities and activities.

2.3.3 Fuel Supply and Demand

This subsection will describe the sources of fuel supplies to YVR and historical and projected fuel demand.

2.3.4 Fuel Delivery System Options

This subsection will provide a brief overview of fuel delivery system options considered leading up to selection of the preferred option for moving through the environmental assessment process.

2.3.5 Project Overview

This subsection will provide a brief overview of the proposed Project components to provide context to the next subsection.

2.3.6 Analysis of Net Effect

This subsection will compare and describe the anticipated net impact of continuation of the existing fuel delivery system compared with development of the proposed Project, and will include a description of incidental occurrences that are expected to arise as a direct result of changing from the existing operation to the proposed new operation, such as:

- *shorter vessel transit distance in Canadian waters;*
- *shorter pipeline length required to deliver fuel to YVR;*
- *decommissioning of the existing fuel delivery pipeline system; and*
- *elimination of tanker trucks.*

2.4 Project Description

2.4.1 Aviation Kerosene Fuel

This subsection will provide a brief overview of aviation kerosene, its properties and characteristics.

2.4.2 Project Component Details

2.4.2.1 Marine Terminal

The following outline provides an example of anticipated subheadings under this subsection, which may differ in the Application. This is not expected to affect the information content described.

Reference Footprint – Location and Mapping

This subsection will:

- *provide a description of the marine terminal location including legal description, longitude and latitude of the representative area;*
- *provide mapping at appropriate scales that indicates both the regional setting and layout of the marine terminal and proposed activities, as appropriate; and*
- *include site plans/sketches/photographs showing marine terminal location, features and activities identified, as appropriate.*

Facilities and Design Parameters

This subsection will:

- *describe the engineering and design criteria selected for upgrading and operating the proposed marine terminal and associated infrastructure, including fuel off-loading and transfer mechanisms, and associated ancillary equipment; and*
- *summarize the results of studies undertaken to assist with selection of on-site and off-site facilities, as appropriate.*

Construction-Phase Activities

This subsection will:

- *describe construction and pre-operation activities, including dismantling, removal and restoration for any temporary structures as required; and*
- *describe intended approaches for the delivery of services required for the construction-phase, such as water supply, waste disposal, material requirements, energy supply, construction-stage transportation/traffic, construction worker's facilities, and emergency and maintenance procedures.*

Operations/Maintenance-Phase Activities

This subsection will:

- *provide a description of operations/maintenance activities, including maintenance protocols; and*
- *describe intended approaches for the delivery of services required for operations/maintenance, such as water supply, waste disposal, material requirements, energy supply, transportation/traffic, operating workforce services, and emergency and maintenance procedures.*

2.4.2.2 Fuel Receiving Facility

The following outline provides an example of anticipated subheadings under this subsection, which may differ in the Application. This is not expected to affect the information content described.

Reference Footprint – Location and Mapping

This subsection will:

- provide a description of the fuel receiving facility location including legal description, longitude and latitude of the representative area;
- provide mapping at appropriate scales that indicate both the regional setting and layout of the fuel receiving facility and activities, as appropriate; and
- include site plans/sketches/photographs with facility location, features and activities identified, as appropriate.

Facilities and Design Parameters

This subsection will:

- describe the engineering and design criteria selected for constructing and operating the proposed fuel receiving facility and associated infrastructure, including fuel receiving and storing mechanisms, and associated ancillary equipment; and
- summarize the results of studies undertaken to assist with site selection for on-site and off-site facilities, as appropriate.

Construction-Phase Activities

This subsection will:

- describe construction and pre-operation activities, including dismantling, removal and restoration for any temporary structures as required; and
- describe intended approaches for the delivery of services required for the construction-phase, such as water supply, waste disposal, material requirements, energy supply, construction-stage transportation/traffic, construction worker's facilities, and emergency and maintenance procedures.

Operations/Maintenance-Phase Activities

This subsection will:

- provide a description of operations/maintenance activities, including maintenance protocols; and

- *describe intended approaches for the delivery of services required for operations/maintenance, such as water supply, waste disposal, material requirements, energy supply, transportation/traffic, operating workforce services, and emergency and maintenance procedures.*

2.4.2.3 Fuel Pipelines

The following outline provides an example of anticipated subheadings under this subsection, which may differ in the Application. This is not expected to affect the information content described.

Reference Footprint – Location and Mapping

This subsection will:

- *provide a description of pipeline location including, longitude and latitude of the representative area;*
- *provide mapping at appropriate scales that indicate both the regional setting and layout of pipeline and activities, as appropriate; and*
- *include site plans/sketches/photographs with pipeline location, features and activities identified, as appropriate.*

Facilities and Design Parameters

This subsection will:

- *describe the engineering and design criteria selected for constructing and operating the proposed pipelines and associated infrastructure;*
- *provide a description of the pipeline and associated infrastructure and other facilities to be developed; and*
- *summarize the results of studies undertaken to assist with site selection for on-site and off-site facilities, as appropriate.*

Construction-Phase Activities

This subsection will:

- *describe construction and pre-operation activities, including dismantling, removal and restoration for any temporary structures as required; and*
- *describe intended approaches for the delivery of services required for the construction-phase, such as water supply, waste disposal, material requirements,*

energy supply, construction-stage transportation/traffic, construction worker's facilities, and emergency and maintenance procedures.

Operations/Maintenance-Phase Activities

This subsection will:

- *provide a description of operations/maintenance activities, including maintenance protocols; and*
- *describe intended approaches for the delivery of services required for operations/maintenance, such as water supply, waste disposal, material requirements, energy supply, transportation/traffic, operating workforce services, and emergency and maintenance procedures.*

2.4.2.4 Movement of Fuel on Vessels within the Fraser River

This subsection will describe the operational component for the proposed movement of vessels transporting aviation fuel within the South Arm of the Fraser River to and from the marine terminal. The following outline provides an example of anticipated subheadings under this subsection, which may differ in the Application. This is not expected to affect the information content described.

Reference Footprint – Location

This subsection will:

- *provide a description of the footprint of vessel movements in the Fraser River; and*
- *indicate both the local and regional setting of vessel movements, as appropriate.*

Vessel Design Parameters

This subsection will:

- *describe the types and sizes of design vessels expected to service the proposed Project during operations/maintenance; and*
- *summarize the results of studies undertaken to assist with vessel selection, as appropriate.*

Operations/Maintenance-Phase Activities

This subsection will:

- *provide a description of operations/maintenance activities, including an estimate of vessel scheduling using best available information.*

2.5 Project Scope

This section will describe the scope of the proposed Project as described in the orders issued by the EAO under sections 11 and 13 of the BCEAA, and as outlined by the CEA Agency and defined by the federal Responsible Authority.

As VAFFC plans to operate the proposed Project for an indefinite life span, decommissioning or abandonment of permanent Project-related infrastructure will not be considered in the Application. It is anticipated that a separate decommissioning plan would be required prior to any decommissioning of proposed Project components to evaluate potential effects, based on resource values, public interests, characteristics and legislative requirements relevant to that time. However, any dismantling and/or removal of temporary structures that may be required during the construction phase will be described and assessed in the Application.

*It is anticipated that the proposed Project scope, as summarized below in **Table 6** and which will be updated in the Application, may be modified during the pre-Application stage based on revisions to the design concept associated with avoidance/mitigation of effects identified during environmental assessment studies and the environmental review process, and the results of ongoing engineering studies. If VAFFC amends the Project Description during the environmental assessment process, it may be necessary to amend the scope of proposed Project to reflect the changes.*

Table 6 Preliminary Scope of the Proposed Project – Definition, Overview of Conceptual Descriptions and Typical Activities

(Note: For Guidance Only - Table Will Be Updated In Application)

Definition (as per the section 13 order)	CONCEPTUAL DESCRIPTION AND TYPICAL ACTIVITIES
Upgrade of an existing marine terminal	<p><u>Structural Upgrades</u></p> <p>Much of the upgrade work will be on the inner landside area of the existing steel pipe pile bulkhead wall. The backfill soils behind the existing bulkhead wall will be removed and replaced or densified to improve seismic stability, and a new concrete beam will be constructed along the top of the existing perimeter wall to improve structural strength. Additional tie-backs will be constructed and/or existing tie-backs will be strengthened or replaced, and a new cathodic protection system will be installed to reduce the potential for long-term corrosion. Some in-water works will also be undertaken off of the existing outer face of the perimeter bulkhead wall, in deep water (i.e., approximately 10 metres (33 feet) deep at low tide). This work is described below under “berthing/mooring upgrades”. The construction method in both areas will involve pile-driving for the installation of steel pipe piles. Land-based equipment or machinery used during the upgrades will only operate from upland areas on VAFFC’s property.</p>
	<p><u>Berthing/mooring upgrades</u></p> <p>A new vessel berthing face equipped with modern fender systems will be constructed off of the outside perimeter of the existing bulkhead wall. Four new breasting dolphin structures and a central off-loading platform will be placed approximately 10 metres further out into the river on support piles driven into the riverbed. Approximately 30 new in-river pipe piles in total (i.e., 6 per structure) are currently anticipated. Each of the four breasting structures will be equipped with modern fenders and quick-release mooring hooks for a vessel’s mooring lines.</p>

Definition (as per the section 13 order)	CONCEPTUAL DESCRIPTION AND TYPICAL ACTIVITIES
	<p>Four additional mooring points, also with quick-release hooks, will be constructed on shore. Any water-based equipment or machinery (i.e., a pile-driving barge) moored or used during the upgrades will make use of vertical spuds or other anchors to hold the water-based machinery or equipment in place and prevent grounding in intertidal or subtidal areas. Whenever and wherever possible, best efforts will be made to install steel pipe piles using equipment, machinery and methods in accordance with the mitigation requirements set out by Fisheries and Oceans Canada. Relatively minor dredging of the riverbed and scour protection installation will be performed at the base of the terminal wharf to provide the necessary underkeel clearance for Panamax-class vessels while berthed at the terminal.</p>
<p>Construction and operation of facilities at the marine terminal for off-loading aviation fuel</p>	<p><u>Fuel off-loading and Transfer</u></p> <p>Fuel off-loading from vessels will be accomplished using articulated hydraulic cargo transfer arms or hoses which connect to a vessel's fuel manifold and allow fuel cargo to be pumped directly to the storage tanks located on adjacent land via pipeline. The transfer arms and/or hose-handling crane will be mounted on a concrete off-loading platform equipped with spill containment and collection equipment. As described, the off-loading platform will be supported on piles located in the river (i.e., approximately 6) and in upland areas (i.e., approximately 3). The short transfer pipeline connecting the new berthing face to the storage tanks, and associated ancillary infrastructure, will be located on land owned by VAFFC or land leased by VAFFC from the Port. The exception will be the portion of the transfer pipeline that will cross under Williams Road. As with the fuel pipelines, the hydraulic cargo transfer arms and/or hose-handling crane will also be regulated by the Oil and Gas Commission under the <i>Pipeline Act</i>.</p>

Definition (as per the section 13 order)	CONCEPTUAL DESCRIPTION AND TYPICAL ACTIVITIES
	<p><u>Dredging</u></p> <p>As described, relatively minor dredging of the riverbed and scour protection installation will be performed at the base of the terminal wharf during construction to provide the necessary underkeel clearance for Panamax-class vessels while berthed at the terminal. If required, VAFFC may conduct infrequent (e.g., once every 2 years) dredging in deep water between the face of the new berthing configuration and the river navigation channel to provide the necessary underkeel clearance for larger vessels during operations. This would likely be timed to coincide with routine river dredging undertaken by the Port. However, VAFFC would be responsible for this activity & for obtaining the necessary permits. Dredged material is currently a valued commodity that VAFFC would plan on disposing to the appropriate vendors on land. Disposal at sea would not be a consideration.</p> <p><u>Utilities</u></p> <p>Power, communications, water and drainage utilities will be needed for construction and to service the proposed marine terminal during operations. Utilities are located nearby and will be extended to the marine terminal footprint. Drainage from the marine terminal will be designed to prevent off-site transportation of deleterious substances both during the construction and operations/maintenance phases. An approval under the <i>Water Act</i> will be sought in the event that use of river water for construction activities is required.</p> <p><u>Operations Control</u></p> <p>Operations control and ancillary buildings will be constructed for fuel processing (i.e., testing/sampling and pumping equipment), handling and management. These will be located in upland areas of the marine terminal property.</p>

Definition (as per the section 13 order)	CONCEPTUAL DESCRIPTION AND TYPICAL ACTIVITIES
	<p><u>Security</u> The proposed marine terminal will be surrounded by security fencing and monitored through closed-circuit television cameras. Trained personnel will be in attendance throughout the process of vessel berthing and mooring, fuel off-loading/transfer and vessel deberthing.</p> <p><u>Emergency Response</u> Thorough spill prevention, preparedness and emergency response measures will be incorporated into the planning and design of marine terminal operations. All personnel will be trained in safety, prevention, preparedness and response measures. A containment boom will be deployed around vessels while they are berthed at the marine terminal and product recovery equipment will be located on-site. Fire response systems will also be in place. A boat launch facility is proposed which will be supported on 6 in-water pipe piles and will be accessed from the shore via a catwalk.</p> <p><u>Other</u> Vancouver Airport Fuel Facilities Corporation will submit an application to the Port to extend the area of the existing Water Lot Lease, if an extension is required. This application would also be reviewed by FREMP.</p>
Construction and operation of an aviation fuel receiving facility	<p><u>Ground Improvements</u> Ground material beneath the receiving facility will be prepared and improved to meet foundation loading requirements and satisfy current seismic design criteria. Once the site is levelled to the working surface, the site could either be preloaded or over-excavated to mitigate settlement of the shallow clayey silts underlying the tank locations. Road access will be constructed to the site as well as foundations for the tanks and ancillary buildings. An approval under the <i>Water Act</i> will be sought in the event that use of surface water for construction activities is required.</p>

Definition (as per the section 13 order)	CONCEPTUAL DESCRIPTION AND TYPICAL ACTIVITIES
	<p><u>Utilities</u> See Marine Terminal above.</p>
	<p><u>Storage Tanks</u> Tanks will be located above ground and constructed of steel. Each of the six tanks will be approximately 30 meters (98 feet) in diameter and 15 meters (49 feet) high. Tanks will be located above an impermeable liner and surrounded by a raised perimeter retention berm – the secondary containment system, with oil/water separators, will be designed and constructed in accordance with federal regulations governing the above ground storage of liquid petroleum hydrocarbons. The fuel receiving facility will be regulated by the B.C. Oil and Gas Commission under the <i>Pipeline Act</i>.</p>
	<p><u>Operations Buildings</u> Buildings will be constructed to accommodate facility control systems and personnel.</p>
	<p><u>Security</u> Perimeter security fencing will be constructed around the facility. Access will be monitored and controlled through closed circuit television cameras.</p>
	<p><u>Emergency Response</u> Comprehensive spill/fire prevention, preparedness and emergency response measures will be incorporated into the planning of facility construction and operations. All personnel will be trained in safety, prevention, preparedness and emergency response measures.</p>

Definition (as per the section 13 order)	CONCEPTUAL DESCRIPTION AND TYPICAL ACTIVITIES
Construction and operation of a pipeline to transfer fuel from the marine terminal to the aviation fuel receiving facility	<p><u>Construction and Operation</u></p> <p>A short pipeline will be constructed to transfer off-loaded fuel to the storage tanks at the nearby receiving facility. Pipeline sections will be welded and located on a raised rack where it connects with the cargo off-loading system at the marine terminal. Cathodic protection measures will be implemented for any section of pipeline that is buried, to inhibit corrosion potential. Automated leak detection and shut-off systems will be incorporated for the entire length of the pipeline. The pipeline will be regulated by the B.C. Oil and Gas Commission under the <i>Pipeline Act</i>. An approval under the <i>Water Act</i> will be sought in the event that use of surface water for construction activities is required.</p>
	<p><u>Emergency Response</u></p> <p>Comprehensive spill/fire prevention, preparedness and emergency response measures will be incorporated into the planning of pipeline construction and operations. All personnel will be trained in safety, prevention, preparedness and emergency response measures.</p>
Construction and operation of a pipeline to deliver fuel from the aviation fuel receiving facility to YVR	<p><u>Construction and Operation</u></p> <p>Pipeline will be constructed to deliver the stored fuel from the fuel receiving facility to the existing facilities at YVR. Pipeline will be approximately 15 kilometres (9.3 miles) long. Pipeline will be welded and constructed in sections and buried at depth. The systematic process is expected to involve trench excavation and slope shoring, placement of aggregate material and pipeline, section welding and re-covering with native material and repaving, where required. Cathodic protection measures will be implemented for the entire pipeline length to inhibit corrosion potential. Automated leak detection and shut-off systems will be incorporated for the entire length of the pipeline. Crossings of major roads and watercourses will be achieved by directionally drilling underground (e.g., for the crossing of Highway 99 and the Moray Channel). A preferred alignment has been identified under existing transportation/utility corridors in Richmond that requires further consultation and refinement.</p>

Definition (as per the section 13 order)	CONCEPTUAL DESCRIPTION AND TYPICAL ACTIVITIES
	<p>Possible routing alternatives have also been identified within this general alignment. The pipeline will be regulated by the B.C. Oil and Gas Commission under the <i>Pipeline Act</i>. An approval under the <i>Water Act</i> will be sought in the event that use of surface water for construction activities is required.</p> <p><u>Emergency Response</u></p> <p>Comprehensive spill/fire prevention, preparedness and emergency response measures will be incorporated into the planning of pipeline construction and operations. All personnel will be trained in safety, prevention, preparedness and emergency response measures.</p>
<p>Movement of vessels transporting aviation fuel within the South Arm of the Fraser River to and from the marine terminal, including fuel off-loading and transfer at the marine terminal</p>	<p><u>Operations</u></p> <p>This activity will occur as a result of the operations/maintenance phase. The proposed Project will be designed to accommodate barges, Handysize tankers and Panamax-class tankers. Vancouver Airport Fuel Facilities Corporation will not own or operate these vessels or manage their movement to and from the proposed marine terminal. Vessels will be owned and operated by individual shippers. The movement of commercial vessels transporting aviation fuel in Canadian waters is regulated by Transport Canada under the <i>Canada Shipping Act</i> and <i>Transportation of Dangerous Goods Act</i> and administered/managed by the Canadian Coast Guard under the Marine Communications and Traffic Services Program. Under the <i>Canada Marine Act</i> responsibility for the movement of vessels within the Fraser River lies within the jurisdiction of the Port and under the management of the Fraser River Pilots and Pacific Pilotage Authority (the Pacific Pilotage Authority pass over responsibility to the Fraser River Pilots near Sand Heads at the river mouth).</p>

Definition (as per the section 13 order)	CONCEPTUAL DESCRIPTION AND TYPICAL ACTIVITIES
	<p>Vancouver Airport Fuel Facilities Corporation can, however, exercise control over the types, sizes and technical design characteristics of vessels servicing the proposed marine terminal. For example, VAFFC will require that all shippers comply with relevant federal regulations and international codes governing the shipment of aviation fuel on vessels, and that all vessels servicing the proposed Project are double-hulled, regardless of federal requirements.</p> <p>The feasibility and risks associated with vessels transporting aviation fuel cargo within the Fraser River (i.e., simulation modelling for Panamax-class river transits from Sand Heads to the marine terminal, passing vessel forces simulation modelling, risk of collisions and grounding, etc.) will be included in the Application. A Full Mission Bridge simulation for the Fraser River Pilots may be required during the detailed design stage.</p>

2.6 Alternative Means of Undertaking the Proposed Project

This section will provide a description of alternative means for undertaking the proposed Project in accordance with CEA Agency guideline documents, and will include:

- *alternative means of carrying out the proposed Project that are technically and economically feasible;*
- *identification of key issues and potential environmental effects associated with each alternative; and*
- *identification of the rationale for selecting the preferred alternative(s).*

2.7 Project Land Use and Physical Conditions

This section will provide a brief description of:

- *the land ownership and land use regime including tenures, licenses, permits or other authorizations that could be potentially affected by the proposed Project and report on the status of consultations with holders of such tenures and permits, and private land owners on resolving issues with tenure and permit holders, where relevant;*
- *any Land and Resource Management Plans that the proposed Project overlaps and list the management objectives of the Land and Resource Management Plans²; and*
- *existing and proposed management and monitoring programs or regional studies.*

2.8 Project Delivery Mechanism

This section will provide a description of the proposed Project delivery mechanism (e.g., Design/Build option) or, in the event that the details of the delivery mechanism have not been determined, describe the range of options being considered.

2.9 Project Constraints

This section will provide a description of any significant development constraints to be faced by the proposed Project (e.g., physical barriers, land use conflicts, navigational issues, geotechnical issues, distance constraints, soils/water contamination, etc.) for the construction and operations/maintenance of proposed Project components.

² Note that other projects, even if not directly related to the proposed Project, that may result in overlapping effects with the proposed Project, and future projects that are reasonably foreseeable and sufficiently certain to proceed, will be described in **Subsection 4.3.4: Determination of Cumulative Impacts** of the Application.

2.10 Project Security

This section will provide a description of security measures to be implemented for the proposed marine terminal, fuel receiving facility and fuel pipelines.

2.11 General Project Plan and Schedule

This section will provide:

- *an outline of the general proposed Project plan and schedule including estimated timeframe for processing environmental approvals, a projected target date for the commencement of construction, key activities that must be completed in order to achieve this construction start date, and a forecast target date for the commencement of operations;*
- *a description of any work anticipated in advance of the targeted commencement of construction date and reasons for this work taking place; and*
- *a description of anticipated schedules, activities, and milestones related to proposed Project operations/maintenance.*

2.12 Property Requirements

This section will provide a description of:

- *federal, provincial or municipal agreements required to construct and/or operate/maintain the proposed Project; and*
- *federal, provincial, municipal or private land purchases/leases required to construct and/or operate/maintain the proposed Project.*

2.13 Capital Costs and Financing

This section will provide:

- *an estimated breakdown budget estimate for completing the proposed Project consistent with the engineering and design mechanisms described in the Application; and*
- *a description of the financing and business model for the proposed Project.*

2.14 Labour Force

This section will provide:

- *an estimation of direct construction workforce requirements for the proposed Project;*

- *an indication of from which location(s) the workforce would originate; and*
- *an estimation of direct operation and maintenance workforce requirements for the proposed Project.*

2.15 Business Opportunities

This section will provide:

- *an estimate and description of potential business opportunities (direct and indirect) relating to the proposed Project's construction and operations/maintenance; and*
- *a description of the importance of fuel delivery to YVR, and the importance of YVR to the Lower Mainland and the Province.*

2.16 Construction Scheduling and Sequencing

This section will provide a proposed construction schedule identifying major tasks and timelines.

2.17 Project Benefits

This section will provide a list of proposed Project benefits including, but not limited to:

- *a summary of key benefits that the proposed Project will provide;*
- *a summary of the direct and indirect employment in person-years for the construction and operations/maintenance phases, as appropriate for the proposed Project;*
- *a summary of the capital investment required, as appropriate for the proposed Project;*
- *an estimate of the direct and indirect government revenues that would be expected over the life of the proposed Project, including any taxes and fees payable to the province and to local government, as appropriate for the proposed Project;*
- *an estimate of contributions to the provincial gross domestic product, as appropriate for the proposed Project; and*
- *an estimate of contributions to environmental, social and economic criteria, and public health, as appropriate for the proposed Project.*

2.18 Regulatory Framework and Applicable Permits

This section will:

- *describe the relevant federal and provincial legislative and policy requirements governing proposed Project development;*
- *identify and describe applicable local government official planning and zoning requirements;*
- *identify and list the relevant permits, approvals, licences, authorizations and notifications required to complete the discipline-specific environmental assessment studies in support of the Application, and which will be required for proposed Project construction and operations/maintenance; and*
- *indicate which of the regulatory applications will be submitted for concurrent review under Section 23 of the BCEAA, consistent with the Concurrent Approval Regulation (B.C. Reg. 371/2002).*

2.19 References

This section will include a list of all supporting references used in this chapter of the Application, as appropriate.

3 Information Distribution and Consultation

This chapter of the Application will describe the information distribution and consultation activities (i.e., open houses, meetings with interested parties, enclosures in community papers, media interviews, participation in community events) and direct communications (i.e., letters, phone calls, faxes and emails) undertaken by VAFFC prior to and during the pre-Application stage, and those activities planned during and subsequent to the formal Application Review stage. This chapter will also document consultations with federal, provincial and local government agencies and regulatory authorities, as well as key stakeholders and provide a brief overview of First Nations consulted during the review, and issues and concerns raised during the preparation of the AIR and the Application.

The following sections are proposed for this chapter:

3.1 Provincial Review

*This section will list the provincial and local/regional organizations involved in the review of the proposed Project as members of the Technical Working Group (see **Table 7**).*

Table 7 Provincial, Regional and Local Agencies/Departments/Organizations Involved in the Review of the Proposed Project

Organization	Project Role		
<i>Provincial</i>			
British Columbia Environmental Assessment Office	Harmonized	Environmental	Assessment Coordinator
British Columbia Ministry of Environment	Technical	Working	Group member
British Columbia Oil and Gas Commission	Technical	Working	Group member
<i>Local/Regional</i>			
City of Richmond	Technical	Working	Group member
Corporation of Delta	Technical	Working	Group member

Organization	Project Role		
Fraser Health	Technical member	Working	Group
Metro Vancouver	Technical member	Working	Group
Vancouver Coastal Health Authority	Technical member	Working	Group

3.1.1 Milestones

This subsection will describe the applicable provincial milestones that VAFFC has encountered during the pre-Application stage.

3.1.2 Issues Tracking

This subsection will provide summary tables of the key issues and concerns raised by provincial and by local and regional government organizations during the preparation of the AIR and the Application, and VAFFC's responses.

3.2 Federal Review

*This section will list the federal agencies/departments/organizations involved in the review of the proposed Project as members of the Technical Working Group (**Table 8**).*

Table 8 Federal Organizations Involved in the Review of the Proposed Project

Agencies/Departments/Organizations	Project Role
Canadian Environmental Assessment Agency	Federal Agency/Assessment Coordinator
Environment Canada	Expert Authority
Fisheries and Oceans Canada	Technical Working Group member
Health Canada	Technical Working Group member
Transport Canada	Expert Authority

Agencies/Departments/Organizations	Project Role
Vancouver Fraser Port Authority	Regulated Authority (Lead)
Vancouver Airport Authority	Technical Working Group member

3.2.1 Milestones

This subsection will describe the applicable federal milestones that VAFFC has encountered during the pre-Application stage.

3.2.2 Issues Tracking

This subsection will provide a summary table of the key issues and concerns raised by federal government departments during the preparation of the AIR and the Application, and VAFFC’s responses.

3.3 First Nations Information Distribution and Consultation

*This section will provide a brief overview of First Nations information distribution and consultation activities undertaken by VAFFC during the pre-Application stage, and planned during and following the Application Review stage. This section will also include a brief summary of First Nations issues and concerns. Substantial details on First Nations and a summary table of the key issues and concerns raised by First Nations will be provided in **Part C: First Nations Information Requirements** of the Application, which this section will make reference to.*

3.4 Public and Agency Information Distribution and Consultation

This section will summarize VAFFC's past and proposed public and agency consultation initiatives, in accordance with the consultation provisions set out in the section orders issued by the EAO.

This section will:

- include a summary of consultations with public and other key stakeholders, federal, provincial and local government agencies;*
- describe the means of information distribution and consultation used at public meetings and open houses; one-on-one meetings with interested parties; publication of articles in the media, enclosures and community newspapers; through interviews on local radio and television; and by means of participation in community events; and*

- *include a summary of public issues, concerns and interests identified during these consultations (note that provincial and federal issues and concerns are addressed in **Section 3.1.2** and **Section 3.2.2**, respectively, and First Nations concerns in **Section 3.3**).*

3.4.1 Pre-Application Consultation

3.4.1.1 Consultation Summary

This subsection will summarize VAFFC's consultations with the public and other key stakeholders, federal, provincial and local government agencies undertaken during the pre-Application stage, covering both the preparation of the AIR and the Application.

3.4.1.2 Means of Information Distribution

This subsection will describe the means of information distribution and consultation activities including the following:

- *Public meetings and open houses;*
- *One on one meetings with interested parties;*
- *Publication of articles in the media, enclosures and community newspapers;*
- *Interviews on local radio and television;*
- *Participation in community events;*
- *Project website; and*
- *Technical Working Group meetings.*

3.4.1.3 Public Issues Tracking

This subsection will provide a summary of the key issues and concerns raised by the public during the preparation of the AIR and the Application, and VAFFC's responses.

3.4.2 Consultation Planned During Application Review

3.4.2.1 Planned Public and Agency Consultation

This subsection will describe the public and agency consultation program proposed for the Application Review stage.

3.4.2.2 Proposed Issues Resolution Methods

This subsection will outline the proposed methods and processes to resolve outstanding issues.

PART B – ASSESSMENT OF PROJECT EFFECTS, MITIGATION, AND SIGNIFICANCE OF RESIDUAL EFFECTS

Part B: Assessment of Project Effects, Mitigation, and Significance of Residual Effects of the Application will provide a thorough assessment of potential environmental, social, economic, heritage and health effects as a result of ‘normal and routine’ activities associated with the construction and operation/maintenance phases of the proposed Project, and will include a description of recommended mitigation measures to reduce or eliminate potential effects. It will also include an assessment of residual effects and their significance, following the implementation of mitigation measures, and consideration of potential cumulative impacts, which will form the basis for the federal cumulative environmental effects assessment in **Part D: Federal Information Requirements** of the Application. Each of the discipline-specific studies that will form **Part B: Assessment of Project Effects, Mitigation, and Significance of Residual Effects** of the Application will also meet federal requirements for the assessment of environmental effects, environmental changes and species at risk.

Potential effects of reasonably foreseeable accidents or malfunctions, with the exception of aviation fuel spills in the river, are addressed in **Part D, Chapter 15: Accidents or Malfunctions** of the Application. Potential biophysical effects of aviation fuel spills in the river are addressed in **Part D, Chapter 19: Fate and Effects Analysis** of the Application.

Chapter’s in **Part B: Assessment of Project Effects, Mitigation, and Significance of Residual Effects** will describe and/or map the proximity of the proposed Project to designated environmentally sensitive areas, ecological reserves, protected and other sensitive areas, where relevant (e.g., Ramsar sites, Western Hemisphere Shorebird Reserve Network designated sites, Important Bird Areas, Wildlife Management Areas, National Wildlife Areas, Migratory Bird Sanctuaries, Provincial Ecological Reserves, Fraser River Estuary Management Program-coded habitat, other wetland habitats, known bird migration corridors, any known areas containing significant concentrations of staging, wintering or summering migratory or resident birds, and any land containing wildlife designated as ‘at risk’ under the Species at Risk Act).

The proposed Project will have an indefinite lifespan; therefore, the scope of the environmental assessment will not include an assessment of potential effects associated with decommissioning of permanent structures. It is anticipated that a separate decommissioning plan would be required prior to any decommissioning of Project components to evaluate potential effects, based on resource values, public interests, characteristics and legislative requirements relevant to that time. Analysis of the effects resulting from temporary decommissioning of construction-related facilities will occur within the consideration of construction phase effects.

*The discipline-specific environmental assessment studies that will form the basis of **Part B: Assessment of Project Effects, Mitigation, and Significance of Residual Effects** of the Application, have been undertaken based on the draft Environmental Assessment Study Work Plans document submitted to the EAO in July 2009.*

4 Assessment Scope and Methodology

4.1 Approach to Effects Assessment and Management

*This section of the Application will provide a description of the approaches taken to identify, assess and manage potential environmental, social, economic, heritage, and health effects of the proposed Project consistent with provincial and federal environmental assessment requirements and legislative mandates. Potential cumulative impacts, as defined by the EAO, will be considered and integrated within each of the discipline-specific assessments of the effects analysis. Federal assessment methodology that will be followed in the effects assessment is described in **Part D: Federal Assessment Requirements**.*

4.2 Scope of the Assessment

This section will provide a description of the issues scoping process used to identify potential Project-related environmental, social, economic, heritage, and health effects, including the influence of consultations during this scoping process and the scope presented in the section 11 and 13 orders issued by the EAO.

In addition, this section will also provide an overview of the federal scoping and the CEAA requirements pertaining to environmental effects, analysis of expected environmental changes as a result of the proposed Project, and potential effects on listed wildlife.

*This section will provide a summary of the technical discipline-specific assessments that will be included in **Part B: Assessment of Project Effects, Mitigation, and Significance of Residual Effects** of the Application, consistent with the five effects assessment pillars described in the EAO's AIR Template Guideline:*

Assessment of Potential Environmental Effects:

- *Fisheries, Aquatics and Surface Water Quality Assessment*
- *Vegetation, Wildlife and Wildlife Habitat Assessment*
- *Local and Regional Air Quality and Climate Assessment*
- *Noise Assessment*
- *Screening Level Contaminated Sites Assessment*

Assessment of Potential Social and Economic Effects:

- *Socio-economic and Socio-community Assessment*

Assessment of Potential Heritage Effects:

- *Archaeological, Historical and Heritage Resources Assessment*

Assessment of Potential Health Effects:

- *Human Health Effects Assessment*

*First Nations interests will be addressed under **Part C: First Nations Information Requirements** of the Application.*

4.3 Assessment Methodology

This section will describe how the environmental assessment was performed, identify components of the effects assessment and the indicators and data sources used to consider potential effects of the proposed Project, and explain how the significance of residual effects and assessment of cumulative impacts were determined.

Baseline studies and assessment analyses will follow relevant provincial and federal standards, such as the Resource Information Standards Committee standards, and guidance. A description and/or reference for each standard, and a list of applicable provincially and regionally developed best management practices and guidance materials to be followed will be provided in each of the technical discipline studies.

The physical (spatial) boundaries and timeframes (temporal) from which potential effects of construction and operations/maintenance of the proposed Project could occur will be described and/or mapped in each of the technical discipline studies. Environment Canada and the B.C. Ministry of Environment will be consulted in the determination of study area boundaries for the Fate and Effects Analysis.

4.3.1 Selection of Valued Components

*This subsection will provide a general description of the methodology used for selecting potentially affected Valued Components³ associated with the effects assessment of the proposed Project. Details regarding the approach and rationale used for determining discipline-specific Valued Components will be provided in each of the effects assessments included in **Part B: Assessment of Project Effects, Mitigation, and Significance of Residual Effects**, where appropriate and in consultation with the relevant provincial and/or federal agencies (i.e., Environment Canada and the Ministry*

³ Valued Components are any part of the environment, including social, economic, heritage and health components, which may be considered important by the Proponent, members of the public, scientists, government and First Nations involved in the assessment process. Importance may be determined on the basis of heritage value or scientific concern. The specific Valued Components considered for assessment will be defined in the Application.

of Environment). For example, following consultation with Environment Canada, Valued Ecosystem Components to be assessed in the Application (e.g., with respect to **Section 5.2: Fisheries, Aquatics and Water Quality Assessment**, **Section 5.3: Vegetation, Wildlife and Wildlife Habitat Assessment**, and **Chapter 19: Fate and Effects Analysis**) will be selected with reference to the following categories, including but not necessarily limited to:

- Provincially red- and blue-listed fish, wildlife and plant species and plant communities;
- Fish, wildlife and plant species identified by the Committee on the Status of Endangered Wildlife in Canada to be endangered, threatened, or of special concern;
- Fish, wildlife and plant species listed in Schedules 1, 2 and 3 of the federal Species at Risk Act and areas identified as Critical Habitat under SARA or in any posted draft Recovery Strategy;
- Species-at-risk and Regionally Important Wildlife that are subject to special management under the provincial Identified Wildlife Management Strategy;
- Fish and wildlife species of regional importance (i.e., prioritized by government agencies, First Nations or public concern);
- Large congregations of wintering, staging, or summering migratory or resident birds, including waterfowl, shorebirds, raptors, wading birds and land birds;
- Breeding birds;
- Marine mammals;
- Designated protected areas (i.e., Ramsar sites, Western Hemisphere Shorebird Reserve Network, Important Bird Areas, Wildlife Management Areas, National Wildlife Areas, Migratory Bird Sanctuaries, Provincial Ecological Reserves);
- Riverine, estuarine and marine habitats, including water column, marshes, seagrass meadows and intertidal mudflats/biofilm;
- Riparian and upland habitats; and
- Surface water quality.

4.3.2 Determination of Mitigation Measures and Management Strategies

This subsection will provide a description of:

- *methods used, including the influence of public, First Nations, and government agency consultations, to identify and develop mitigation measures and management strategies to avoid, reduce, or otherwise mitigate potential effects of the proposed Project;*
- *potential compensation measures where the proposed Project is expected to result in significant adverse effects that cannot be avoided or mitigated, and for adverse effects that are not significant but where compensation would be appropriate as determined in consultation with the relevant agencies and/or authorities; and*
- *feasibility for any compensation measures, including the limitations for successful and effective implementation; where direct compensation is not practical or possible, describe potential consequences to valued/sensitive resources and/or the social setting.*

4.3.3 Determination of Residual Effects and their Significance

This subsection will provide a description of the general rationale and criteria used to determine residual effects and their significance, including the establishment of clearly defined threshold criteria or standards beyond which residual effects would be considered significant. Specific study component significance criteria will be presented at the end of each effects assessment.

Residual effects are defined as environmental changes that result from a project after mitigation measures have been incorporated. As much as possible, the “significance” of residual effects is quantified with an assessment of the level of effect according to defined parameters and evaluation criteria.

The “significance” of predicted residual effects after mitigation measures have been applied will be assessed as described in “Reference Guide: Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects” (Federal Environmental Assessment Review Office, 1994). It is intended that application of defined criteria will enable a systematic and objective determination of “significance”, which is both defensible and transparent, and which reduces or eliminates biases in deciding the importance of adverse effects following mitigation. It is recognized that the final determination of significance rests with the federal Responsible Authority and with the EAO.

The following factors will be used, where appropriate, for the analysis of whether any residual adverse effects after mitigation would be significant:

- **Magnitude:** *This refers to the magnitude or severity of the effect. Low magnitude effects may have no impact, while high magnitude effects may have an impact.*

- **Geographic Extent:** *This refers to the extent of change over the geographic area of a proposed project. The geographic extent of effects can be local or regional. Local effects may have a lower impact than regional effects.*
- **Duration and Frequency:** *This refers to the length of time the effect lasts and how often the effect occurs. The duration of an effect can be short term or long term. The frequency of an effect can be frequent or infrequent. Short term and/or infrequent effects may have a lower impact than long term and/or frequent effects.*
- **Reversibility:** *This refers to the degree to which the effect is reversible. Effects can be reversible or permanent. Reversible effects may have lower impact than irreversible or permanent effects.*
- **Context:** *This refers to the ability of the environment to accept change. For example, the effects of a project may have an impact if they occur in areas that are ecologically sensitive, with little resilience to imposed stresses.*
- **Probability:** *The likelihood that an adverse effect will occur in circumstances where it is not certain that the effect will materialize.*

4.3.4 Determination of Cumulative Impacts

Consistent with the requirements of the EAO, this subsection will provide a description of the general rationale and criteria used to determine whether the proposed Project is anticipated to have significant adverse cumulative impacts.

This subsection will:

- *include methodology and rationale used to identify other projects, including other reasonably foreseeable future developments that may, in concert with the potential effects of the proposed Project, lead to cumulative impacts; and*
- *provide a summary table identifying and describing the projects included in the cumulative impacts assessment for each of the studies in **Part B: Assessment of Project Effects, Mitigation, and Significance of Residual Effects** of the Application.*

The provincial cumulative impacts assessment will consider:

- *approved land use plans that designate the most appropriate activities on the land base;*
- *baseline studies which set out the current conditions and thereby factor in effects of prior development;*

- *consideration of potential overlapping impacts that may be occurring due to other projects, even if not directly related to the proposed Project; and*
- *consideration of future projects that are reasonably foreseeable and sufficiently certain to proceed.*

*The federal requirements for assessment of cumulative environmental effects will be addressed in **Chapter 22: Cumulative Environmental Effects** of the Application.*

4.4 References

This section will include a list of all supporting references used in this chapter of the Application.

5 Assessment of Environmental Effects

5.1 Environmental Context

This section of the Application will provide general background and context to each of the effects assessments included in the chapter. This will include a general description of the existing biophysical environment, including surrounding areas within the zone of potential influence of the proposed Project. Description of the biophysical environment will include an overview of the aquatic, terrestrial, air and noise setting associated with the proposed Project.

5.2 Fisheries, Aquatics and Surface Water Quality Assessment

5.2.1 Introduction

This subsection will provide an introduction and background to the Fisheries, Aquatics and Water Quality Assessment.

5.2.2 Approach and Methodology

This subsection will:

- *describe the methodology and rationale used for the Fisheries, Aquatics and Water Quality Assessment; and*
- *provide a rationale for, describe and/or map the physical (spatial) boundaries and timeframes (temporal) of the Study Area from which potential effects of construction and operations/maintenance of the proposed Project are anticipated to occur.*

5.2.3 Existing Baseline Conditions

This subsection will:

- *describe existing fisheries and aquatic resource values in the Study Area including identification and potential presence of provincially red-listed and blue-listed species, as well as federally listed species under the Species at Risk Act and the Committee on the Status of Endangered Wildlife in Canada, and species of regional or First Nations importance; and City of Richmond Riparian Management Areas.*

5.2.4 Potential Effects and Recommended Mitigation Measures

This subsection will:

- *assess the potential Project-related effects on fish and aquatic resources, including but not limited to: changes in fish populations or fish passage, degradation of*

instream and riparian habitat (i.e., potential changes in erosion and deposition rates to sensitive downstream habitats);

- *identify and describe mitigation measures and environmental management strategies to avoid, minimize or mitigate potential adverse effects on fish and aquatic resources during proposed Project construction and operations/ maintenance; and*
- *recommend mitigation measures that ensure all reasonable precautions necessary are taken to prevent pollution and meet all provincial requirements for waste discharges to the environment, including those outlined under the Environmental Management Act, Petroleum Storage and Distribution Facilities Storm Water Regulation, and Waste Discharge Regulation.*

5.2.5 Potential Residual Effects and their Significance

This subsection will:

- *identify and describe the potential residual effects following implementation of mitigation measures and management strategies; and*
- *discuss the significance of the potential residual effects of the proposed Project (i.e., “not significant” or “significant”) considering magnitude, geographic extent, duration and frequency, reversibility, context and probability, as appropriate.*

5.2.6 Potential Cumulative Impacts

This subsection will identify and describe any potential residual effects that have the potential to act in concert with residual effects from other known past, present and future foreseeable projects or land use activities to cause a potential cumulative impact in the proposed Project Area, and identify those potential cumulative impacts.

5.2.7 References

This subsection will include a list of all supporting references used in this discipline-specific component study.

5.3 Vegetation, Wildlife and Wildlife Habitat Assessment

5.3.1 Introduction

This subsection will provide an introduction and background to the Vegetation, Wildlife and Wildlife Habitat Assessment.

5.3.2 Approach and Methodology

This subsection will:

- *describe the methodology and rationale used for the Vegetation, Wildlife and Wildlife Habitat Assessment; and*
- *provide a rationale for, describe and/or map the physical (spatial) boundaries and timeframes (temporal) of the Study Area from which potential effects of construction and operations/maintenance of the proposed Project are anticipated to occur.*

5.3.3 Existing Baseline Conditions

This subsection will describe the existing vegetation, wildlife (amphibians, reptiles, birds, mammals and insects) and wildlife habitat in the Study Area, including provincially red-listed and blue-listed species, as well as federally listed species under the Species at Risk Act and the Committee on the Status of Endangered Wildlife in Canada, and species of regional importance, and species with a known range that overlaps with the Study Area (i.e., migratory birds), and for which suitable habitat may be present.

5.3.4 Potential Effects and Recommended Mitigation Measures

This subsection will:

- *assess the potential Project-related effects on vegetation, wildlife and wildlife habitat, including but not limited to: habitat alteration, loss or fragmentation, displacement and disturbance of vegetation and wildlife, access management, and potential introduction of invasive plant species;*
- *assess the potential Project-related effects on estuarine and riparian vegetation, estuarine and marine wildlife including pinnipeds (seals and sea lions), cetaceans (whales and dolphins), bird populations (coastal waterbirds) and habitats of the South Arm, including the marshes, and terrestrial vegetation and wildlife habitat; and*
- *identify and describe mitigation measures and environmental management strategies to avoid, minimize or mitigate potential adverse effects on vegetation and wildlife resources during proposed Project construction and operations/maintenance.*

5.3.5 Potential Residual Effects and their Significance

The subsection will:

- *identify and describe potential residual effects following implementation of mitigation measures and management strategies; and*
- *discuss the significance of the potential residual effects of the proposed Project (i.e., “not significant” or “significant”) considering magnitude, geographic extent, duration and frequency, reversibility, context and probability, as appropriate.*

5.3.6 Potential Cumulative Impacts

This subsection will identify and describe any potential residual effects that have the potential to act in concert with residual effects from other known past, present and future foreseeable projects or land use activities to cause a potential cumulative impact in the proposed Project Area, and identify those potential cumulative impacts.

5.3.7 References

This subsection will include a list of all supporting references used in this discipline-specific component study.

5.4 Local and Regional Air Quality and Climate Assessment

5.4.1 Introduction

This subsection will provide an introduction and background to the Local and Regional Air Quality and Climate Assessment.

5.4.2 Approach and Methodology

This subsection will:

- *describe the methodology and rationale used for the Local and Regional Air Quality and Climate Assessment (i.e., review of historical meteorological and ambient air quality monitoring data, inventories of emissions from existing sources, dispersion modelling, etc.); and*
- *provide a rationale for, describe and/or map the physical (spatial) boundaries and timeframes (temporal) of the Study Area from which potential effects of construction and operations/maintenance of the proposed Project are anticipated to occur.*

5.4.3 Existing Baseline Conditions

This subsection will:

- *describe the baseline air quality characteristics in the Study Area(s) including review of available existing air quality and meteorological information data and local, regional and federal air quality standards and objectives, and a description of air quality contaminant contributors (i.e., vehicle, industry, etc.), including a description of potential contaminants;*
- *determine baseline air quality conditions from air quality monitoring stations, and local ambient air quality data and emission inventories that have been developed by Environment Canada and Metro Vancouver; and*

- *identify the relevant agency or agencies responsible for reviewing any permit applications for specific activities relating to air quality and reference all applicable air quality bylaws, objectives and guidelines.*

5.4.4 Potential Effects and Recommended Mitigation Measures

This subsection will:

- *assess proposed Project-related effects on air quality, including but not limited to: air pollutant emissions from activities associated with proposed Project construction and operations/maintenance, changes in emissions from proposed Project construction and operations/maintenance, and description of emissions offset from proposed Project operations (i.e., replacement of fuel truck deliveries due to proposed Project);*
- *include consideration of the following contaminants: fine particulate matter (i.e., PM_{2.5}), oxides of nitrogen, oxides of sulphur and volatile organic compounds. The assessment will also consider the following greenhouse gases: carbon dioxide, methane and nitrous oxide;*
- *compare estimated future emissions with and without the proposed Project. If the proposed Project is expected to result in a net increase in emissions and there is the potential for sensitive receptors to be affected, then dispersion modelling will be conducted to predict the potential effect of the emissions on ambient air quality. The magnitude of the effect on ambient air quality will be assessed by comparing to ambient air quality objectives; and*
- *identify and describe emission reduction and mitigation strategies, consistent with industry standards and best affordable practices, to avoid, minimize or mitigate potential adverse impacts on air quality during proposed Project construction and operations/maintenance.*

5.4.5 Potential Residual Effects and their Significance

This subsection will:

- *identify and describe potential residual effects following implementation of mitigation measures and management strategies; and*
- *discuss the significance of potential residual effects of the proposed Project (i.e., “not significant” or “significant”) considering magnitude, geographic extent, duration and frequency, reversibility, context and probability, as appropriate.*

5.4.6 Potential Cumulative Impacts

This subsection will identify and describe any potential residual effects that have the potential to act in concert with residual effects from other known past, present and future foreseeable projects or land use activities to cause a potential cumulative impact in the proposed Project Area, and identify those potential cumulative impacts.

5.4.7 References

This subsection will include a list of all supporting references used in this discipline-specific component study.

5.5 Noise Assessment

5.5.1 Introduction

This subsection will provide an introduction and background to the Noise Assessment.

5.5.2 Approach and Methodology

This subsection will:

- *describe the methodology and rationale used to complete the Noise Assessment; and*
- *provide a rationale for, describe and/or map the physical (spatial) boundaries and timeframes (temporal) of the Study Area from which potential effects of construction and operations/maintenance of the proposed Project are anticipated to occur.*

5.5.3 Existing Baseline Conditions

This subsection will:

- *describe the existing acoustic conditions in the Study Area, including: review of municipal noise by-laws and guidelines and standards, measure of the existing ambient noise conditions and identification of noise sensitive land uses and noise producers (i.e., industry, traffic, etc.); and*
- *obtain 48-hour continuous baseline noise monitoring carried out at two residential locations that are judged to have the greatest potential to be affected by operations noise from the proposed Project.*

5.5.4 Potential Effects and Recommended Mitigation Measures

This subsection will:

- *assess the Project-related effects on noise conditions, including but not limited to: identification of potential effects on the community including interference with essential activities (i.e., speech communications and sleep) and generation of annoyance and negative reactions from community members;*
- *use Cadna/A outdoor sound propagation software to model upgrades to the marine terminal including dredging (if dredging is required) and pile-driving, construction of the fuel receiving facility and installation of fuel pipeline adjacent to residential areas; and*
- *identify mitigation measures and environmental management strategies to avoid, minimize or mitigate potential adverse effects on acoustic conditions during proposed Project construction, operation and maintenance, including identification of monitoring and follow-up requirements.*

5.5.5 Potential Residual Effects and their Significance

This subsection will:

- *identify and describe potential residual effects following implementation of mitigation measures and management strategies; and*
- *discuss the significance of the potential residual effects of the proposed Project (i.e., “not significant” or “significant”) considering magnitude, geographic extent, duration and frequency, reversibility, context and probability, as appropriate.*

5.5.6 Potential Cumulative Impacts

This subsection will identify and describe any potential residual effects that have the potential to act in concert with residual effects from other known past, present and future foreseeable projects or land use activities to cause a potential cumulative impact in the proposed Project Area, and identify those potential cumulative impacts.

5.5.7 References

This subsection will include a list of all supporting references used in this discipline-specific component study.

5.6 Screening Level Contaminated Sites Assessment

5.6.1 Introduction

This subsection will provide an introduction and background to the Screening Level Contaminated Sites Assessment.

5.6.2 Approach and Methodology

This subsection will:

- *describe the methodology and rationale used for the Screening Level Contaminated Sites Assessment, in accordance with the applicable provincial/federal regulations; and*
- *provide a rationale for, describe and/or map the physical (spatial) boundaries and timeframes (temporal) of the Study Area from which potential effects of construction and operations/maintenance of the proposed Project are anticipated to occur.*

5.6.3 Existing Baseline Conditions

This subsection will describe the known existing contamination issues in the Study Area, through an historical review and selective site reconnaissance, including a review of previous assessments, air photographs, and local/municipal information, identification of applicable legislation and regulations, as well as characterization of soil conditions, summary of historical land use activities to determine potential sources of contamination, and identification of existing contaminated sites and suspected contaminants.

5.6.4 Potential Effects and Recommended Mitigation Measures

This subsection will:

- *assess proposed Project-related effects on contaminated sites, including but not limited to: an evaluation of areas of potential soil and/or groundwater contamination due to historical and current land use activities and description of potential contamination due to proposed Project activities;*
- *assess baseline potential for, and the presence/absence of, contaminated materials including soil, sediment, surface water, groundwater, and soil vapour, where appropriate, based on proposed Project construction activities;*
- *assign a risk ranking along the preliminary pipeline reference alignment and possible pipeline routing alternatives, and at the marine terminal and proposed location for the fuel receiving facility, corresponding to high, moderate or low risk of encountering contamination;*
- *identify mitigation measures and environmental management strategies consistent with the Environmental Management Act and the Hazardous Waste Regulation to avoid, minimize or mitigate potential adverse effects on the environment with respect*

to contaminated sites during proposed Project construction and operations/maintenance; and

- *include recommendations for Phase 1 and Phase 2 assessments of specific sites, suggested mitigation/remediation options for consideration or collection of other information consistent with provincial/federal regulations and guidelines (e.g., through interviews or review of third party environmental reports). The Phase 1 or Phase 2 assessments would identify and quantify background contaminant levels in areas warranted by the Screening Level Contaminated Sites Assessment. Alternatively, the Ministry of Environment's Water Quality Objectives/Guidelines and the Canadian Council of Ministers of the Environment's Canadian Environmental Quality Guidelines may be used as reference standards for clean-up; and.*

5.6.5 Potential Residual Effects and their Significance

This subsection will:

- *identify and describe potential residual effects following implementation of mitigation measures and management strategies; and*
- *discuss the significance of the potential residual effects of the proposed Project (i.e., "not significant" or "significant") considering magnitude, geographic extent, duration and frequency, reversibility, context and probability, as appropriate*

5.6.6 Potential Cumulative Impacts

This subsection will identify and describe any potential residual effects that have the potential to act in concert with residual effects from other known past, present and future foreseeable projects or land use activities to cause a potential cumulative impact in the proposed Project Area, and identify those potential cumulative impacts, as appropriate.

5.6.7 References

This subsection will include a list of all supporting references used in this discipline-specific component study.

5.7 Summary of Potential Environmental Effects

This section will include a table summarizing the environmental effects analysis.

6 Assessment of Social and Economic Effects

6.1 Introduction

Potential social and economic effects of the proposed Project will be addressed in this chapter of the Application under a combined socio-community and socio-economic assessment.

This section will provide an introduction and background to the Socio-community and Socio-economic Assessment. This section will also include a general description of existing social and economic conditions, including surrounding areas within the zone of potential influence of the proposed Project. Description of social and economic conditions will include consideration of contract and business opportunities, employment opportunities, labour income generated and local unemployment rate and trends. This section will also describe and/or map the proximity of the proposed Project to any national/provincial/regional/municipal parks, trails and recreational areas.

6.2 Approach and Methodology

This section will:

- *describe the methodology and rationale used for the Socio-community and Socio-economic Assessment; and*
- *provide a rationale for, describe and/or map the physical (spatial) boundaries and timeframes (temporal) of the Study Area from which potential effects of construction and operations/maintenance of the proposed Project are anticipated to occur.*

6.3 Existing Baseline Conditions

This section will describe the existing socio-economic and socio-community characteristics in the Study Area. This subsection will also include a review of background information such as existing and proposed recreational resources (e.g., City parks and trails), Official Community Plans, local government bylaws and designations, regional strategic plans, etc. Other areas of interest include land use planning and designations, identification of Development Permit Areas, Environmentally Sensitive Areas, populations and demographics, and information on communities.

6.4 Potential Effects and Recommended Mitigation Measures

This section will:

- *assess five broad categories including: land use, socio-economic, community, community/institutional arrangements and quality of life;*

- *assess the potential proposed Project-related effects on socio-economic and socio-community components, including estimated initial construction costs, approximate capital costs over the life of the proposed Project, annual operating costs, employment and training (measured in person years), estimated annual regional and municipal government revenue, estimated annual provincial government revenue and estimated procurement of local goods and services;*
- *assess the potential proposed Project-related effects on labour force estimates, economic impact and Crown revenues including*
- *assess potential proposed Project-related effects on land and resource use, including but not limited to: existing and future land use, access to land, designated environmentally sensitive areas, and any additional relevant policies;*
- *identify mitigation measures and environmental management strategies to avoid, minimize or mitigate potential adverse effects on socio-economic and socio-community conditions, land and resource use, during proposed Project construction and operations/maintenance; and*
- *state all assumptions and references used to complete the socio-economic and socio-community assessment.*

6.5 Potential Residual Effects and their Significance

This section will:

- *identify and describe potential residual effects following implementation of mitigation measures and management strategies; and*
- *discuss the significance of potential residual effects of the proposed Project (i.e., “not significant” or “significant”) considering magnitude, geographic extent, duration and frequency, reversibility, context and probability, as appropriate.*

6.6 Potential Cumulative Impacts

This section will identify and describe any potential residual effects that have the potential to act in concert with residual effects from other known past, present and future foreseeable projects or land use activities to cause a potential cumulative impact in the proposed Project Area, and identify those potential cumulative impacts.

6.7 References

This section will include a list of all supporting references used in this discipline-specific component study.

6.8 Summary of Potential Social and Economic Effects

This section will include a table that summarizes the social and economic effects analysis.

7 Assessment of Heritage Effects

7.1 Introduction

This section of the Application will provide an introduction and background to the Archaeological, Historical and Heritage Resources Assessment. This section will also include a general description of the existing archaeological, historical and heritage resources⁴ located within the zone of potential influence of the proposed Project.

In accordance with the Heritage Conservation Act and the Freedom of Information and Protection of Privacy Act, information posted on the EAO's electronic Project Information Centre and/or the CEA Agency's Project Registry will not include specific site locations on maps and will show maps within a scale between 1:50,000 and 1:250,000.

7.2 Approach and Methodology

This section will:

- describe the methodology and rationale used for the Archaeological, Historical and Heritage Resources Assessment. All archaeology surveys will be conducted in accordance with the Heritage Conservation Act; and*
- provide a rationale for, describe and/or map the physical (spatial) boundaries and timeframes (temporal) of the Study Area from which potential effects of construction and operations/maintenance of the proposed Project are anticipated to occur.*

7.3 Existing Baseline Conditions

This section will describe the archaeological, historical and heritage resources in the Study Area, including review of available information on existing archaeological, paleontological, historical, architectural, and First Nations sites, determination of site significance, and identification of locations that warrant field investigations at the impact assessment level.

7.4 Potential Effects and Recommended Mitigation Measures

This section will:

⁴ The services of a consulting archaeologist have been retained to conduct an archaeological overview assessment and, if required, an archaeological impact assessment consistent with the British Columbia Archaeological Impact Assessment Guidelines (Archaeology Branch 1998, available on the Archaeology Branch website). The archaeologist's permit reports will be submitted to the Archaeology Branch well in advance of the environmental assessment process review deadlines.

- *assess potential proposed Project-related effects on archaeological, historical and heritage resources during the construction phase;*
- *assign an archaeological potential rating from low to high along the preliminary pipeline reference alignment and possible pipeline routing alternatives, at the marine terminal and the proposed location for the fuel receiving facility; and*
- *identify and describe mitigation measures and environmental management strategies to avoid, minimize or mitigate potential adverse effects on archaeological, historical and heritage resources during proposed Project construction, operations/maintenance.*

7.5 Potential Residual Effects and their Significance

This section will:

- *identify and describe potential residual effects following implementation of mitigation measures and management strategies; and*
- *discuss the significance of the potential residual effects of the proposed Project (i.e., “not significant” or “significant”) considering magnitude, geographic extent, duration and frequency, reversibility, context and probability, as appropriate.*

7.6 Potential Cumulative Impacts

This section will identify and describe any potential residual effects that have the potential to act in concert with residual effects from other known past, present and future foreseeable projects or land use activities to cause a potential cumulative impact in the proposed Project Area, and identify those potential cumulative impacts.

7.7 References

This section will include a list of all supporting references used in this discipline-specific component study.

7.8 Summary of Potential Heritage Effects

This section will include a summary table of the heritage effects analysis.

8 Assessment of Human Health Effects

8.1 Introduction

This section of the Application will provide an introduction to the Human Health Effects Assessment. This section will also include a general description of the existing human health conditions, with respect to the air quality, noise and socio-community/socio-economic assessments, located within the zone of potential influence of the proposed Project.

8.2 Approach and Methodology

This section will:

- *describe the approach used to scope human health issues, based on technical review and input from the public and government agencies; and*

8.3 Existing Baseline Conditions

This section will:

- *describe the findings of the air quality, noise and socio-economic/socio-community assessments, as they relate to existing human health conditions.*

8.4 Potential Effects and Recommended Mitigation Measures

This section of the Application will:

- *discuss the findings of the air quality, noise and socio-community/socio-economic assessments as they relate to healthy living and potential human health effects as a result of the proposed Project;*
- *provide a general determination with respect to potential positive and negative human health effects; and*
- *identify and describe mitigation measures and environmental management strategies to avoid, minimize or mitigate potential adverse effects on human health during proposed Project construction and operations/maintenance.*

8.5 Potential Residual Effects and their Significance

This section will:

- *identify and describe potential residual effects following implementation of mitigation measures and management strategies; and*

- *discuss the significance of the potential residual effects of the proposed Project (i.e., “not significant” or “significant”) considering magnitude, direction, duration, severity and likelihood, as appropriate.*

8.6 Potential Cumulative Impacts

This section will identify and describe any potential residual effects that have the potential to act in concert with residual effects from other known past, present and future foreseeable projects or land use activities to cause a potential cumulative impact in the proposed Project Area, and identify those potential cumulative impacts, as appropriate.

8.7 References

This section will include a list of all supporting references used in this discipline-specific component study.

8.8 Summary of Potential Human Health Effects

The section will include a summary of the human health effects analysis.

9 Environmental Management Program

This chapter of the Application will describe the approach to environmental management, monitoring and inspection.

A framework for an Environmental Management Program describing the environmental practices and procedures to be systematically applied during proposed Project construction and decommissioning of temporary construction-related facilities, and operations/maintenance will be included in the Application. The objective of the Environmental Management Program will be to minimize environmental effects and other adverse effects throughout the life of the proposed Project.

If the proposed Project is granted an Environmental Assessment Certificate, a comprehensive Environmental Management Program (including detailed component plans) will be developed and, prior to commencement of construction, submitted to the appropriate regulatory agencies and authorities for review and comment.

The following sections of this chapter are proposed:

9.1 Introduction

This section will provide an introduction and background to the Environmental Management Program.

9.2 Approach to Environmental Management

This section will include an overview of VAFFC's approach to environmental management during the construction and operation/maintenance phases of the proposed Project.

9.3 Environmental Inspection and Compliance Monitoring

This section will detail the reporting structure of the proposed Project including the type and frequency of reports to be submitted to EAO and/or other regulatory federal or provincial agencies.

9.4 Construction Environmental Management Plan

This section will:

- *provide a conceptual outline of a Construction Environmental Management Plan;*
- *address environmental practices and procedures to be implemented during the decommissioning of temporary, construction-related facilities; and*

- *identify monitoring parameters and activities, impact management measures, and reporting protocols to be used to identify, respond to and mitigate impacts during proposed Project construction.*

Component plans are expected to include, but not necessarily be limited to, the following topics:

- *Air Quality*
- *Archaeological and Heritage Resources*
- *Communications*
- *Contaminated Sites*
- *Environmental Education, Awareness and Training*
- *Environmental Monitoring*
- *Fisheries*
- *Site Restoration and Landscaping*
- *Noise*
- *Solid, Liquid and Hazardous Waste*
- *Surface Water Quality and Sediment/Erosion Control*
- *Spill Prevention, Preparedness and Emergency Response*
- *Traffic Management*
- *Vegetation and Wildlife*

9.5 Operations Environmental Management Plan

The section will:

- *provide a conceptual outline of an Operations and Maintenance Environmental Management Plan; and*
- *identify monitoring parameters and activities, adaptive management measures, and reporting protocols to be used to identify, respond to and mitigate impacts during proposed Project operations/maintenance.*

Component plans are expected to include, but not necessarily be limited to, the following topics:

- *Berth Procedures and Provisions*
- *Communications*
- *Port Operations*
- *Post-Construction Compliance Monitoring*
- *Solid, Liquid and Hazardous Waste*
- *Spill Prevention, Preparedness and Emergency Response*
- *Stormwater Management*
- *Terminal Operations Manual, including Ship-to-Shore Cargo Handling*

This section will also describe post-construction monitoring and reporting requirements, including any that may be identified by the federal Responsible Authority as a Follow-up Program under the CEAA, if required. Under the CEAA, a Follow-up Program is defined as a program to:

- *verify the accuracy of the proposed Project's environmental assessment;*
- *determine the effectiveness of any measures taken to mitigate the adverse environmental effects of the proposed Project; and*
- *report on these findings.*

9.6 References

This section will include a list of all supporting references used in this chapter of the Application.

PART C – FIRST NATIONS INFORMATION REQUIREMENTS

This Part of the Application will be developed based on guidelines prepared by the EAO, including the AIR Template, “Proponent Guide for Providing First Nation Consultation Information” and “the Proponent Guide for Providing Treaty Nation Consultation Information”.

10 First Nations Background Information

This chapter of the Application will identify and describe the First Nations and Treaty Nation identified as having an actual or potential interest in the proposed Project, and potentially affected by the proposed Project, in consultation with the EAO. The nature and extent of such interests, if such information is provided by First Nations to the proponent on the timeline set out by the EAO, will be described in Chapters 11 and 12.

In consultation with the EAO, the following First Nations have been identified as being potentially affected by the proposed Project:

- *Chemainus First Nation*
- *Cowichan Tribes*
- *Halalt First Nation*
- *Hwilitsum First Nation*
- *Kwantlen First Nation*
- *Lake Cowichan First Nation*
- *Lyackson First Nation*
- *Musqueam First Nation*
- *Penelakut First Nation*
- *Semiahmoo First Nation*
- *Tsawout First Nation*
- *Tsawwassen First Nation*

11 Aboriginal Rights and Treaty Rights

This chapter of the Application will:

- *identify past, present and anticipated future uses of the proposed Project Area by First Nations; and*
- *identify specific aboriginal and treaty rights (including title), currently being practiced or that could potentially be carried out in the future, which are potentially affected by the proposed Project.*

11.1 Aboriginal Rights and Treaty Rights Potentially Affected by the Proposed Project

This section will:

- *provide a non-confidential summary of information shared by each involved First Nation regarding traditional and current use and knowledge of lands and resources in the proposed Project Area;*
- *identify, at an overview level, First Nations activities such as: hunting, trapping and fishing, and/or by collection from natural sources (e.g., berries, medicinal plants) in the proposed Project Area; and*
- *assess the potential proposed Project-related effects on the traditional and current use activities of each First Nation identified and the relative importance of sites used to carry out these activities within the proposed Project Area.*

11.2 Recommended Mitigation for Aboriginal Rights and Treaty Rights Potentially Affected by the Proposed Project

This section will:

- *identify monitoring protocols and mitigation measures to be implemented during the construction phase to avoid or minimize adverse effects to traditional and current use sites and resources; and*
- *identify the proposed Project stage and context in which the prescribed mitigation measure are to be applied.*

11.3 Potential Residual Effects and their Significance

This section will:

- *identify potential residual effects and significance following implementation of mitigation measures and management strategies; and*
- *evaluate the environmental, social, economic, heritage or health significance of potential residual effects to the respective identified First Nations.*

11.4 Conclusions

This section will summarize and conclude the Aboriginal Rights and Treaty Rights chapter.

11.5 References

This section will include a list of all supporting references used in this chapter of the Application, as appropriate.

12 Other First Nations Interests

This chapter of the Application will:

- *identify and describe the nature and extent of First Nations interests, other than the aboriginal rights and treaty rights that will be described in **Chapter 11: Aboriginal Rights and Treaty Rights**, potentially affected by the proposed Project with respect to potential environmental, social, economic, heritage and health effects (e.g., economic interests and land use plans, social needs, etc.), where this information is made available to VAFFC within the timeframes prescribed by the EAO;*
- *describe how potential effects on these interests have been addressed; and*
- *outline any recommended mitigation measures or management strategies required.*

12.1 Introduction

This section will provide an introduction and background to the Other First Nations Interests chapter.

12.2 First Nations Interests Potentially Affected by the Proposed Project

*This section will identify any relevant First Nations interests, other than the aboriginal rights and treaty rights that will be described in **Chapter 11: Aboriginal Rights and Treaty Rights**, such as land use plans and/or planning objectives proposed, where this information is made available to VAFFC within the timeframes prescribed by the EAO.*

12.3 Recommended Mitigation for First Nations Interests Potentially Affected by the Proposed Project

This section will:

- *identify monitoring protocols and mitigation measures to be implemented during the construction phase to avoid or minimize adverse effects to other First Nations interests; and*
- *identify the proposed Project stage and context in which the prescribed mitigation measure are to be applied.*

12.4 Potential Residual Effects and their Significance

This section will:

- *identify potential residual effects and significance following implementation of mitigation measures and management strategies; and*

- *evaluate the environmental, social, economic, heritage or health significance of potential residual effects to the respective identified First Nations.*

12.5 Conclusions

This section will summarize and conclude the Other First Nations Interests chapter.

12.6 References

This section will include a list of all supporting references used in this chapter of the Application, as appropriate.

13 First Nations Consultation

This chapter of the Application will provide a summary of:

- *past and planned First Nations consultation activities; and*
- *key First Nations issues and responses to these issues, which will be summarized in a tracking table and posted on the EAO's online electronic Project Information Centre.*

This chapter of the Application will also describe:

- *how proposed Project information has been made available to potentially affected First Nations;*
- *activities undertaken by VAFFC to notify and consult with potentially affected First Nations, during the pre-Application stage, including the preparation of the AIR and the Application;*
- *VAFFC's proposed First Nations notification, information distribution, and consultation activities for the Application review stage, following screening and acceptance of the Application for formal detailed review, including the proposed location and timing of all consultation activities;*
- *any non-confidential consultation agreements reached with potentially affected First Nations;⁵*
- *the degree to which First Nations issues have been taken into account, are resolved, and/or addressed and if not accounted for, describe why;*
- *any further measures the EAO, in consultation with First Nations, may identify to ensure adequate First Nations consultation during the Application Review stage; and*
- *the process to document, track and resolve or address, if applicable, outstanding First Nations issues.*

⁵ VAFFC will respect First Nations' requests for confidentiality. Information to be treated as confidential will not be included in the Application.

14 First Nations Conclusions

This chapter of the Application will:

- *provide a summary of potential effects on aboriginal rights and treaty rights/other First Nations interests; and*
- *identify in a table, specific commitments to address potential effects on those rights and interests.*

PART D – FEDERAL INFORMATION REQUIREMENTS

This Part of the Application will provide information on the scope and direction received from the Responsible Authority and the CEA Agency for the federal environmental assessment of the proposed Project.

*The federal information requirements for assessment of potential environmental effects/changes and species at risk will be integrated within each of the relevant studies to be presented under **Part B: Assessment of Project Effects, Mitigation, and Significance of Residual Effects** of the Application.*

*The assessment of potential effects that will be provided in **Part B: Assessment of Project Effects, Mitigation, and Significance of Residual Effects** of the Application will be undertaken consistent with section 16(1) of the CEEA, which requires an assessment of the “environmental effects” of the proposed Project.*

“Environmental effects” are defined in section 2(1) of the CEEA as:

- a) *“any change that the project may cause in the environment, including any change it may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of the Species at Risk Act,*
- b) *any effect of any change referred to in paragraph (a) on*
 - i. *health and socio-economic conditions,*
 - ii. *physical and cultural heritage,*
 - iii. *the current use of lands and resources for traditional purposes by aboriginal persons, or*
 - iv. *any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, or*
- c) *any change to the project that may be caused by the environment,*
whether any such change or effect occurs within or outside Canada”.

This Part of the Application will identify and assess the federal assessment requirements pertaining to potential effects of the environment on the proposed Project, as referenced in subsection (III) of the definition of “environmental effect”, and potential cumulative environmental effects.

This Part of the Application will also include an assessment of Accidents or Malfunctions, Spill Probability and Risk, Spill/Fire Prevention, Preparedness and Emergency Response, and Fate and Effects Analysis.

15 Accidents or Malfunctions

This chapter of the Application will include consideration of:

- *potential accidents, malfunctions and unplanned events that could occur during construction and operations/maintenance of the proposed Project;*
- *the likelihood and circumstances under which these events could occur;*
- *the environmental effects that may result from such events; and*
- *how each potential accident, malfunction or unplanned event would be managed or mitigated.*

Construction and operations/maintenance for each component of the proposed Project will be assessed to identify any area of risk and means of prevention; these will include: vessel movements in the river, marine terminal, fuel receiving facility, and fuel pipeline.

The following areas of assessment relating to potential accidents or malfunctions will have dedicated chapters in the Application:

- *Spill Probability and Risk (**Chapter 16**)*
- *Spill Prevention, Preparedness and Emergency Response (**Chapter 17**)*
- *Fire Prevention, Preparedness and Emergency Response (**Chapter 18**)*
- *Fate and Effects Analysis (**Chapter 19**)*
- *Navigational Feasibility and Risk (**Chapter 20**)*

16 Spill Probability and Risk

This chapter of the Application will describe accidental cargo release statistics relating to the movement of petroleum hydrocarbons in local and international waters, and provide information on the probability and risk associated with a release of aviation fuel for the proposed Project during vessel movements and cargo off-loading in the river. Assessment of spill probability and risk will also be included for the proposed pipeline.

*Based on the assessment conducted within this chapter, the outline for a Spill Prevention, Preparedness and Emergency Response Plan will be developed prior to commencement of proposed Project operations/maintenance (see **Chapter 17**).*

17 Spill Prevention, Preparedness and Emergency Response

This chapter of the Application will:

- *specify the outline and components of the comprehensive Spill Prevention, Preparedness and Emergency Response Plan to be developed and completed prior to the commencement of proposed Project operations/maintenance;*
- *describe the planning and delivery processes to be implemented for preventing, preparing for, and responding to a fuel release incident in the Fraser River, at the marine terminal, fuel receiving facility and fuel pipelines, in consultation with the appropriate authorities;*
- *describe methods for preventing, preparing for, and responding to a fuel release incident associated with the proposed Project in accordance with the Spill Reporting Regulation, the Contaminated Sites Regulation and the Hazardous Waste Regulation under the B.C. Environmental Management Act; and*
- *describe present spill response capability along the proposed vessel routes to be used within the river, and in proximity to the proposed marine terminal, fuel receiving and pipeline facilities, and evaluations of their adequacy.*

In accordance with the Canada Shipping Act, the Spill Prevention, Preparedness and Emergency Response Plan will identify third party spill response agreements with designated Response Organizations such as Western Canada Marine Response Corporation.

18 Fire Prevention, Preparedness and Emergency Response

This chapter of the Application will:

- *describe the planning and delivery processes to be implemented for preventing, preparing for, and responding to a fire incident in the Fraser River, at the marine terminal, fuel receiving facility and fuel pipeline;*
- *include detailed information and definition of the specific fire suppression systems or solutions that will be in place to address the fire hazard potential presented by proposed Project infrastructure; and*
- *describe present fire response capability along the proposed vessel routes to be used within the river, and at the proposed marine terminal, fuel receiving and pipeline facilities, and evaluations of their adequacy.*

19 Fate and Effects Analysis

This chapter of the Application will describe the potential fate and effects of aviation fuel cargo, in accordance with the CEAA, in the event of an accidental fuel release incident in the South Arm of the Fraser River from a vessel transiting the river or during fuel cargo off-loading and transfer operations at the marine terminal. The Study Area boundary for the Fate and Effects Analysis will be determined by the results of detailed spill modelling undertaken for the proposed Project, which will cover areas within the river and beyond. Details regarding the worst-case spill scenarios used to conduct the spill modelling, determined based on statistical and physical probability and in consultation with Transport Canada, Environment Canada and the Technical Working Group, will also be included.

This chapter will:

- describe the behaviour of aviation fuel in the aquatic/atmospheric interface;*
- describe potential baseline biophysical resources of the Fraser River and Strait of Georgia that could be affected by a release of aviation fuel;*
- provide a description of the detailed spill modelling undertaken to determine the anticipated fate of fuel in the event of an accidental spill;*
- provide a rationale for the fuel release locations and volumes used in the spill modelling;*
- describe and map the results of the fuel spill modelling;*
- describe and evaluate the potential effects of an accidental fuel release in the Fraser River on biophysical resources identified by the spill modelling as being potentially reached and/or affected, which will include bird populations, marshes, instream/riparian habitats, intertidal and shoreline areas (including intertidal sediment and intertidal biofilm), fisheries, invertebrates and aquatic vegetation, and the atmospheric environment;*
- describe and evaluate the potential effects of an accidental fuel spill to the Fraser River Estuary Management Program red- and yellow-coded habitat, and federal/provincial/municipal protected areas;*
- assess potential effects of dispersed fuel in the water column on aquatic life; and*
- assess potential lethal and sublethal effects of aviation fuel to migratory birds both as a consequence of direct and indirect exposure, including ingestion of contaminated food, and persistence of aviation fuel in ecosystem components.*

20 Navigational Feasibility and Risk

This chapter of the Application will describe the feasibility and associated risks from navigating barges and tankers through the South Arm of the Fraser River navigable channel from Sand Heads at the river mouth upstream to the marine terminal, including the activities associated with vessel approach, berthing, mooring, deberthing and turnaround. Computer based simulations of navigation manoeuvres and vessel mooring forces will be undertaken and presented in this chapter. This chapter will also provide an assessment of the potential effects of the proposed upgraded marine terminal structure on navigation in the river channel. Proposed mitigation measures to minimise effects of the marine terminal upgrades on navigation will be determined in consultation with the Transport Canada Navigable Waters Protection Officer.

This chapter will:

- provide a description of river conditions and characteristics that could potentially affect navigation in the river, including tides and currents, wind and wave climate, visibility, and navigational aids;*
- assess the potential effects on other marine traffic and the risks associated with collisions and grounding;*
- provide a description of the types of vessels proposed, including tug boats, the regulations governing their movement in the Fraser River, terminal vessel vetting procedures, and the regulations governing the transportation of dangerous goods in Canadian waters;*
- provide a description of proposed traffic density and frequency, including transit speeds and times and an assessment of the potential for delays;*
- provide a description of the arrival plan, including pre-arrival, laden transiting, berthing, and mooring procedures to be followed;*
- provide a description of fuel cargo handling requirements for barges, tankers and the marine terminal, and the preparation procedures and process for fuel offloading and transfer; and*
- provide an outline of the vessel departure plan, including pre-departure, deberthing, turnaround, and unladen transiting procedures that will be followed.*

21 Effects of the Environment on the Project

This chapter of the Application will:

- *identify the type, location, frequency and magnitude of environmental factors deemed to have possible consequences on the proposed Project, including, but not necessarily limited to consideration of natural hazards such as:*
 - *extreme weather and weather-related events (e.g., heavy precipitation, extreme temperatures, and wind);*
 - *flood risk (e.g., river conditions including extreme freshet and tidal currents);*
 - *natural seismic activity; and*
 - *climate change.*
- *identify any changes or effects on the proposed Project that may be caused by the above-mentioned environmental factors, whether the changes or effects occur within or outside of Canada;*
- *identify the likelihood and severity of the changes or effects; and*
- *identify mitigation measures, including design strategies, planned to avoid or minimize the likelihood and severity of the changes or effects on the proposed Project.*

22 Cumulative Environmental Effects

This chapter of the Application will fulfill the federal requirement for the Cumulative Environmental Effects Assessment and will be completed according to the requirements set out under section 16 of the CEAA and guidance documentation available from the CEA Agency (i.e., “Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act (November, 2007)”).

*Residual effects deemed greater than “negligible”, as identified in each of the discipline-specific component studies forming **Part B: Assessment of Project Effects, Mitigation, and Significance of Residual Effects** of the Application, will be included in this Cumulative Environmental Effects Assessment chapter in accordance with the CEA Agency’s guidance materials. Cumulative environmental effects consist of both direct environmental effects and indirect social and economic effects caused by an activity in association with other, past, present and future human activities. Cumulative effects assessment is required by the federal assessment process to ensure that the incremental effects resulting from the combined influences of various activities are considered. These combined effects may be significant even though the effects of each action, when individually assessed, are considered insignificant.*

Cumulative environmental effects assessment includes effects that are likely to result from the proposed Project in combination with other projects or activities that have been or will likely be present in a reasonable temporal and spatial scale. Section 16.2 of the CEAA also contemplates taking into account any available regional study results in considering any cumulative environmental effects that may be likely to result from the proposed project in combination with other projects or activities that have been or will be carried out. Vancouver Airport Fuel Facilities Corporation will seek direction from the federal Responsible Authority and/or the CEA Agency as to whether and how any such study results should be taken into account.

The Cumulative environmental effects assessment will be conducted in accordance with the following five-step framework (Hegmann at al. 1999):

- 1. Scoping*
- 2. Effects Analysis*
- 3. Mitigation Identification*
- 4. Significance Evaluation*
- 5. Follow-up Monitoring*

Conclusions on the significance of identified cumulative environmental effects, as well as recommended mitigation measures, as warranted, will be derived from the assessment findings.

PART E – CONCLUSIONS

23 Summary of Residual Effects

This chapter of the Application will provide a summary of the potential environmental, economic, social, heritage or health effects that cannot be completely avoided or mitigated through the re-design or relocation of the proposed Project or through the implementation of control measures associated with ancillary activities.

24 Summary of Commitments and Assurances

This chapter of the Application will provide a summary of VAFFCs commitments and assurances to minimize the potential for the proposed Project to generate residual environmental, economic, social, heritage or health effects. The summary will identify the specific commitments VAFFC will implement, which will become a schedule of the Environmental Assessment Certificate if a Certificate is issued, and will inform subsequent federal decision(s).

25 Conclusion

This chapter of the Application will provide a summary of VAFFC's understanding of the harmonized provincial/federal environmental assessment process in promoting sustainable development while minimizing the effects to environmental, economic, social, heritage and health values. In summation of the Application, VAFFC will provide statements describing how the proposed Project aligns with the goal of the harmonized provincial/ federal environmental assessment.

Vancouver Airport Fuel Facilities Corporation will state their request for an Environmental Assessment Certificate for the proposed Project and the need to successfully complete a federal environmental assessment and subsequent permitting/authorization processes prior to proceeding with proposed Project construction and operations/maintenance.

REFERENCES

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- BC Environmental Assessment Office. 2009. Environmental Assessment Office 2009 User Guide. Victoria, B.C. [Online]. Available at: http://www.eao.gov.bc.ca/pdf/EAO_User_Guide_2009.pdf
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- Federal Environmental Assessment Review Office (a Canadian Environmental Assessment Agency). 1994. Reference Guide: Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects. [Online] Available at: http://www.ceaa.gc.ca/Content/D/A/C/DACB19EE-468E-422F-8EF6-29A6D84695FC/Adverse-Environmental-Effects_e.pdf

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Hegmann, G., C. Cocklin, R. Creasey, S. Dupuis, A. Kennedy, L. Kingsley, W. Ross, H. Spaling, D. Stalker and AXYS Environmental Consulting Ltd. 1999. *Cumulative Effects Assessment Practitioners Guide*. Prepared for Canadian Environmental Assessment Agency by the Cumulative Effects Assessment Working Group. [Online]. Available at: http://www.ceaa.gc.ca/013/0001/0004/index_e.htm

APPENDICES

This part will provide applicable appendices to the Application. The following appendices are attached to this dAIR document.

APPENDIX A

Public Information Sessions Summary (February/March, 2008)

**Vancouver Airport Fuel Delivery Project
Information Sessions Summary Report
April 2009**

INTRODUCTION

Vancouver Airport Fuel Facilities Corporation (VAFFC) is proposing a new fuel delivery system to meet the long-term needs for aviation fuel at Vancouver International Airport and support the future economic growth of the region.

In January 2009, VAFFC submitted a Project Description Report (PDR) to the BC Environmental Assessment Office in support of its application made in November 2008 to have the project reviewed under the *BC Environmental Assessment Act*. The PDR is an overview of the proposed project. Elements of the project have not yet been finalized and are still subject to public and First Nations consultation and regulatory approval.

As the first stage of public outreach, VAFFC voluntarily held four information sessions in late February and early March 2009. A range of topics were discussed at these sessions, including the need for the project, safety, the environment, the evaluation of delivery options and pipeline alignment options.

Comment forms were available at the information sessions, and this report is a summary of comments received. In addition, those interested in the project were encouraged to submit comments or questions to the project website (www.vancouverairportfuel.ca), by email (info@vancouverairportfuel.ca), phone (604.638.7463) or fax (604.684.6981). A brief summary of submissions made during February and March is included in this report.

INFORMATION SESSIONS – ATTENDANCE

Our four information sessions attracted nearly 460 people, with the overwhelming majority attending the shopping mall sessions.

Information Session	Visitors
Holiday Inn – Cambie Road	5
Aberdeen Mall	80
Richmond Centre Mall	344*
South Arm Community Centre	27

**As it was sporadically crowded, this is an approximate number.*

INFORMATION SESSIONS – PUBLIC NOTICE

The information sessions were promoted on the project website and through quarter-page ads in the following publications:

Publication	Dates
Richmond Review	Feb. 21 Feb. 28 Mar. 5
Richmond News	Feb. 20 Feb. 27 Mar. 6
Ming Pao	Feb. 25
World Journal	Feb. 26

MEDIA COVERAGE

The project generated a significant amount of media coverage in the Richmond newspapers, including an editorial in the Richmond Review and a number of letters to the editor. The Richmond Review also ran a letter to the editor from VAFFC in response to the editorial. Sing Tao also published multiple stories, with content mostly taken from the Richmond newspapers. Providing limited coverage were the Sun and Province, World Journal, Global TV and News 1130. Most of the media coverage preceded or coincided with the first information session, while Global TV's piece coincided with the last information session.

Media Coverage Summary

Major Print Media		
Date	Media Outlet	Headline
10-Feb-08	Province	Estuary advocates upset over YVR fuel plan; Limited to two, unpublicized open houses without panel or open mike
13-Feb-08	Province	Airport responds
29-Feb-08	Richmond News	Fuel storage input deadline extended
4-Apr-08	Province	Fuel storage to quadruple; Richmond approval not required for airport expansion
6-May-08	Richmond News	Jet fuel pipeline could cross city to power planes; Risk of spill too great; environmentalists
7-May-08	Richmond Review	Airport eyes jet fuel pipeline
20-Feb-09	Richmond Review	Jet fuel could be shipped up the Fraser
20-Feb-09	Richmond News	Airlines fuel debate with pipeline plan; Jet fuel demand up
20-Feb-09	Richmond Review	Editorial: Time to come clean
24-Feb-09	Vancouver Sun	Jet fuel pipeline plan raises concerns about spill in Fraser; Opposition mounts against proposed tanker offloading facility to serve YVR
25-Feb-09	Richmond News	Pipeline open house attracts few
25-Feb-09	Richmond News	Won't get fuelled again
4-Mar-09	Richmond News	Fuel line in 'good shape'
4-Mar-09	Richmond News	Send pipeline proposal back to drawing board
6-Mar-09	Richmond Review	Pipeline nightmare
11-Mar-09	Delta Optimist	Plan would see jet fuel shipped up river; Delta wants to have say on proposal that includes offloading facility and 15-kilometre pipeline in Richmond
11-Mar-09	Richmond News	Pipeline may require environmental review
Chinese Media		
22-Feb-09	World Journal	Environmental Concern: Controversy over Fuel Pipeline Running Through Richmond Urban Area
23-Feb-09	Sing Tao Daily	Pipeline Fuel Delivery to YVR may run underground across Richmond
26-Feb-09	Sing Tao Daily	Chinese [Residents] organization signature drive to oppose building fuel pipeline in Richmond
27-Feb-09	Sing Tao Daily	Public Consultation on Fuel Pipeline
Broadcast Media - Radio		
6-May-08	News 1130	A group of airlines has bought land in Richmond destined for an underground jet fuel pipeline
23-Feb-09	CBC Radio	Adrian Pollard - On the Coast
Broadcast Media - Television		
7-Mar-09	Global BC Television 6:00pm News	YVR pipeline project

COMMENT FORMS

Comment forms submitted at the sessions totaled 29. When asked their opinion of the project on the comment form, 15 expressed support, 11 expressed opposition and three did not answer.

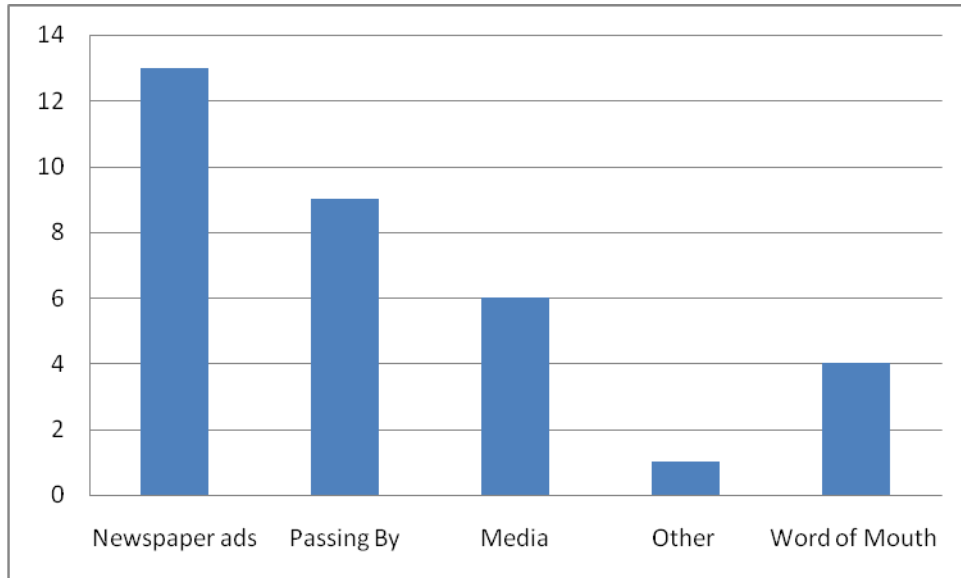
Based on the responses to questions, people generally understood the rationale behind the project, and found the information sessions informative and useful. However, based on the written comments, it appears that those who oppose the project were more likely to provide comments than those who support the project. The three issues raised most often were:

1. safety and protection of the environment
2. other options
3. upgrade the existing line

The following bar charts show how people answered each of the questions on the comment forms. Following each chart are the additional comments provided by some of the information session visitors.

A summary of other submissions provided through other means is included on the last page.

1. How did you hear about the information sessions?

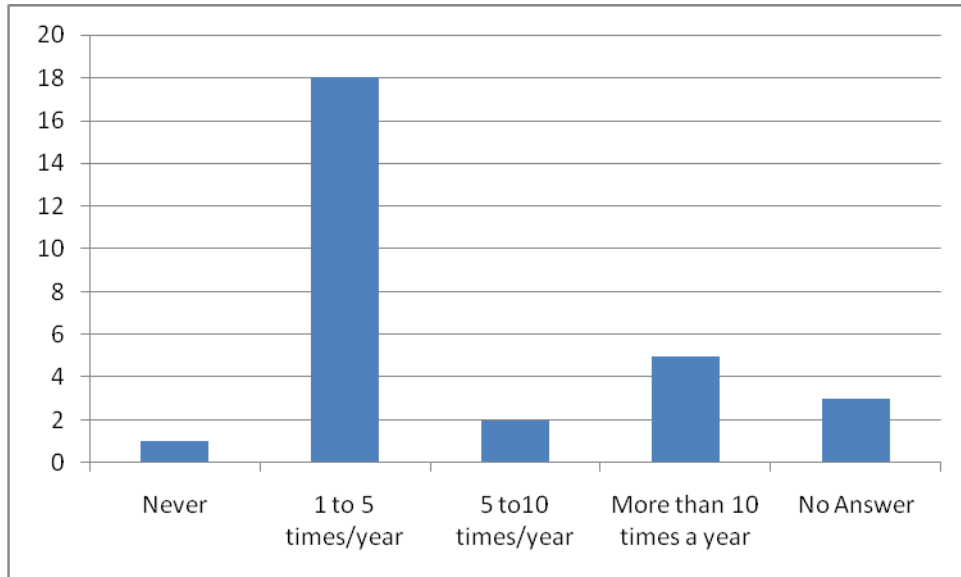


Note: Some chose more than one answer

Comments from this question:

- Information booth at Richmond Centre
- Richmond News
- It's the timing of the notification that is the problem. Where was the information session in May 2008 when you had your silly intention of (buying) property cheap to later disrupt lives, poison our water and risk greater tragedies?
- Richmond News and Richmond Review. To be fair, publish the people's concerns. Possible future explosion, fire and leakage. From leakage (from) people digging into it, tremors, earthquakes, erosion; you are placing a time bomb where we live and where we have business.
- Local newspaper: Richmond Review

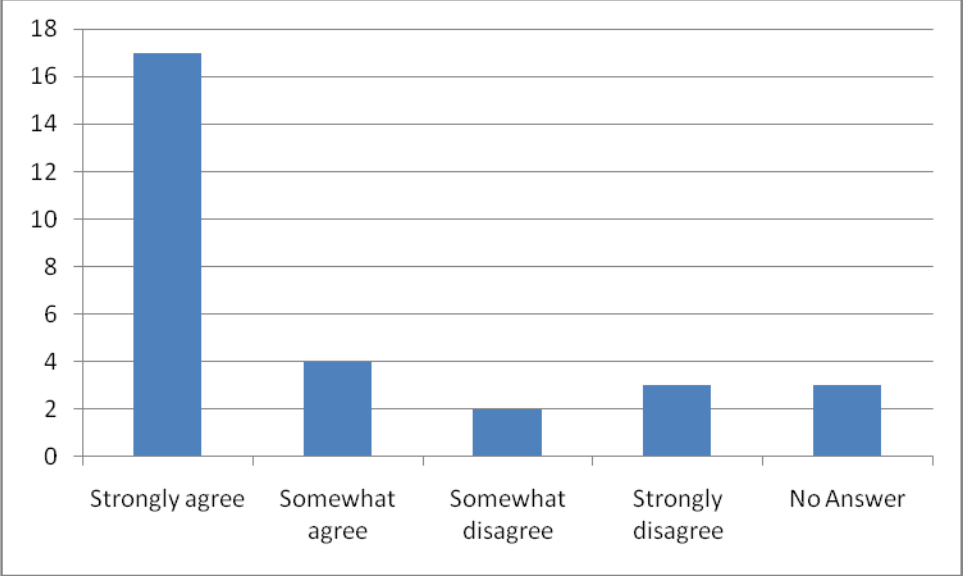
2. How often do you fly through Vancouver International Airport?



Comments from this question:

- Both South and Main (terminals)
- Twice in the past five years
- 1 or 2 in a life. I will fly if it is the only option. I do not travel for great distances, therefore my student loan budget has me staying on the ground. I pick up people, like seniors flying for out for funerals.
- We oppose the pipeline going through/middle of our residential and business areas. Too dangerous. We have whole life savings in our residence.
- I volunteer for YVR as a Green Coat every week and I've seldom seen a tanker truck on the road. Why not have them make all deliveries from 9 pm to 5 am to avoid traffic delays, etc.

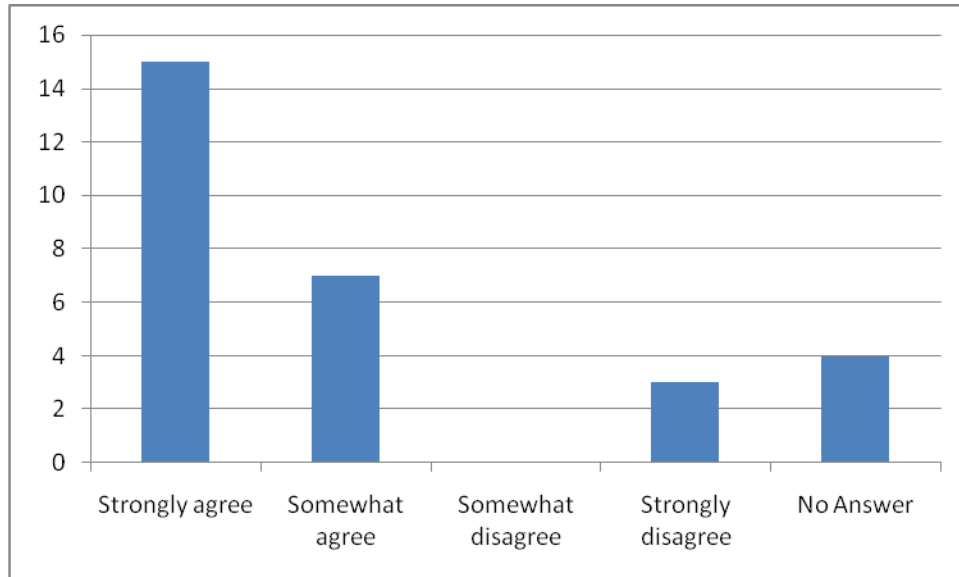
3. Describe how much you agree or disagree with the following statement: Meeting the growing fuel demands of Vancouver International Airport is important to ensure the airport runs efficiently.



Comments from this question:

- As fossil fuels diminish for automobile use, the need for airlines will increase.
- Growing demands? Are you nuts? YVR should start thinking about lowering demands.
- Look around, other airports are downsizing, airlines are going bankrupt, and passengers are staying home.
- Replace existing pipelines.
- Planes require fuel – obviously. But does this ensure that the airport runs efficiently?
- With reduced airport air traffic, e.g. 17% reduction January 2009. The figures being stated by VAFFC in this bulletin are ridiculously over inflated in order to justify VAFFC’s proposal.

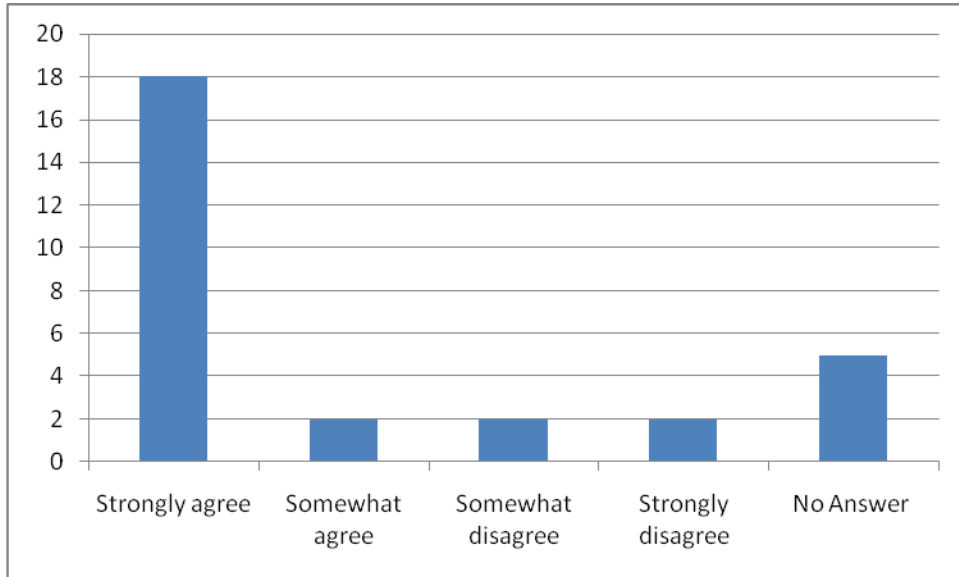
4. Describe how much you agree or disagree with the following statement: *A reliable fuel supply will help Vancouver International Airport remain a “gateway of choice” for airlines and that means continued jobs and economic benefits for our community, our region and our province.*



Comments from this question:

- Reliable for who? The salmon in the estuary, the migrating birds being polluted and displaced? Let our children's health and liability of Richmond be a higher priority than your reliable fuel source.
- Replace existing pipelines.
- A reliable fuel supply may help YVR remain a "gateway of choice" but again without fuel there is no airport.
- I'm not sure I want YVR to be a "gateway of choice" and all the ensuing problems that creates.

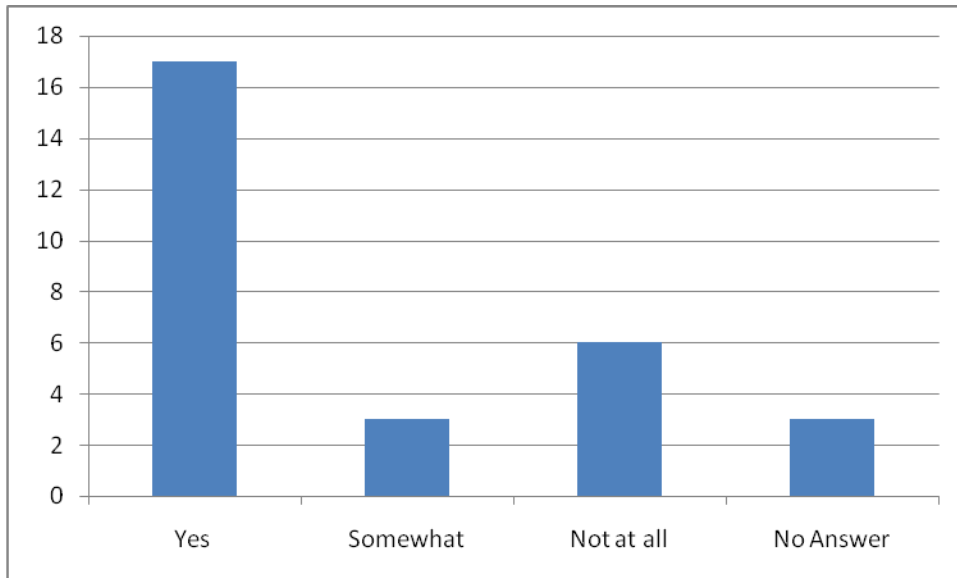
5. Describe how much you agree or disagree with the following statement: Taking large fuel tanker trucks off our highways and roads will improve safety and reduce traffic.



Comments from this question:

- The fastest and easiest way to lower carbon emissions is to get the trucks off the highways.
- Our highways and roads? Oh really, do I have a choice at whatever drives on them? I'll choose electric vehicles and about the skies, are they ours too? If so, my safety will improve without more fuel.
- 1) Replace existing pipelines. 2) Have it shipped in west side of sea island and reconstruct shore line reaching to it.
- As no safety statistics are presented, I can only assume that this is a motherhood statement.
- When was the last time a tanker truck created a problem? Probably more so on the ramp amongst parked aircraft than on the highways.

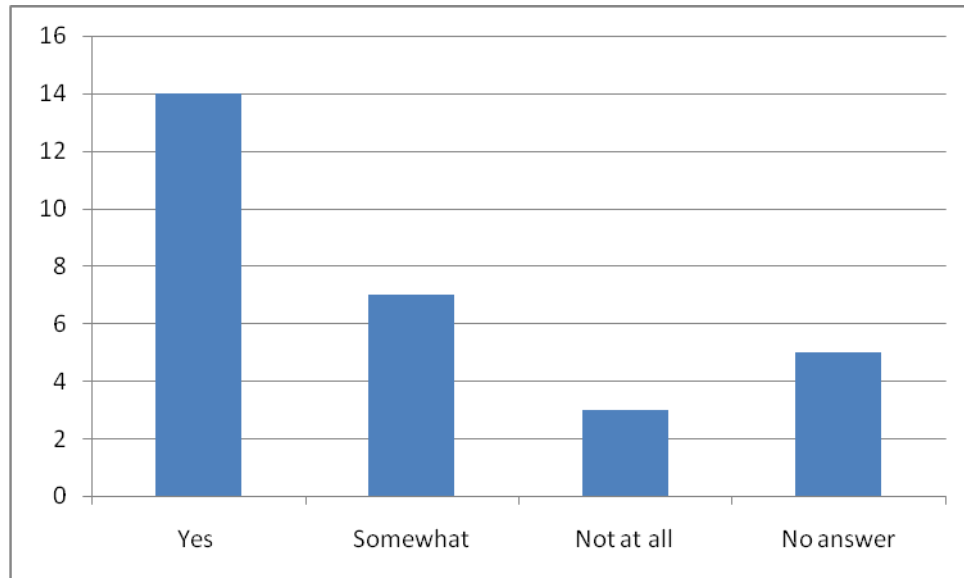
6. Were you generally satisfied with the information made available about the Vancouver Airport Fuel Delivery Project?



Comments from this question:

- Safety and security of the pipeline are important when it is in place.
- Not pleased at all. You present one option, who the beep would be satisfied with that? Maybe greedy people who live away from your proposed pipelines. Where do I say I don't want any alternative fuel deliveries?
- Question one sided to elicit a yes answer, did not give the whole picture with written alternatives.
- Why not show option routes other then No. 5 Road: such as up Highway 99 corridor or 6 Road where there are fewer houses and less disruptions?
- Lack of information about how optional routes were evaluated.
- No information about alternatives.
- No, the 50 page Project Description field with the EAO should have been made available. It has been recently published as almost [more of] a fait accompli than a method of education to the concerned public.

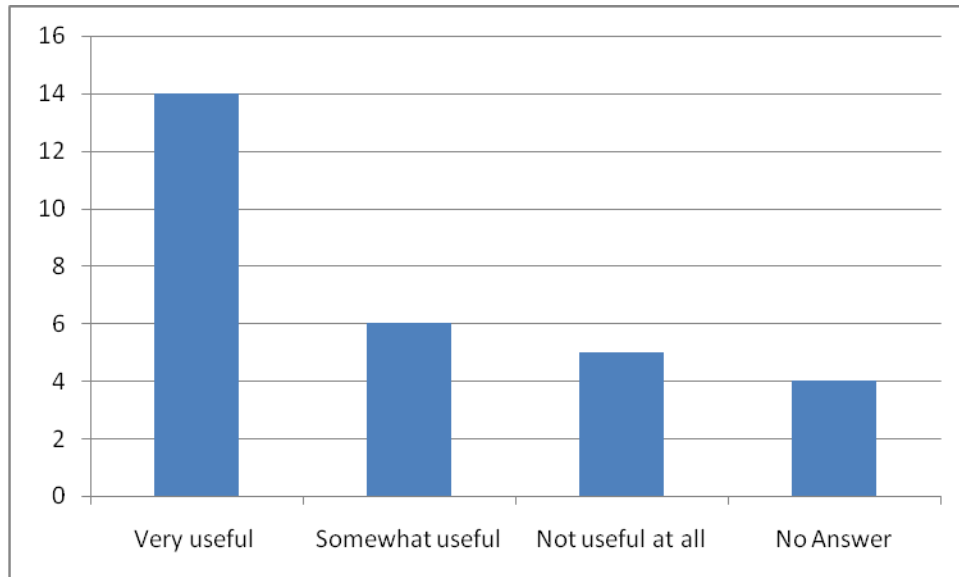
7. Did a project representative answer your questions to your satisfaction? If you had a concern, was it addressed?



Comments from this question:

- We need more public forums before final route [is] decided [upon].
- I prefer to ask questions or address my concerns after I know more.
- I am not satisfied. What can they do for the salmon, birds, infants, asthma-stricken people, groundwater, future generations? You are a bully in the playground and your PR reps are nothing more than smiles and suits.
- Only board display – no rep present.
- Did not ask questions. Anything to get truckers off the road.
- The Public Safety concerns of people directly affected overrides the theoretical and “what if” concerns of people who may not be affected or concerns based on hypothetical scare tactics.
- They agree that our concerns were valid and informed us of other ideas that VAFFC were considering.

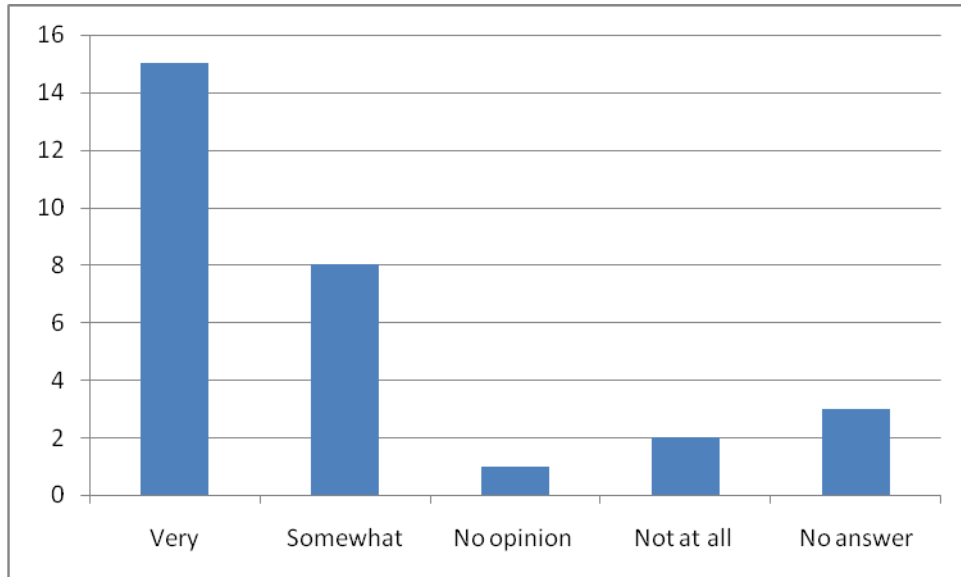
8. What was your overall impression of the Vancouver Airport Fuel Delivery Project information session?



Comments from this question:

- No alternative options. No considerations to our environment. No considerations for our health. Waste of my time, but I gave you some reading material.
- Too one-sided.
- Very superficial.
- The potential for environmental damage to the downstream (15km) communities, tourism, wild life parks, etc. is too great. Alternative 14 is superior with less risks. The evaluation matrix has issues.

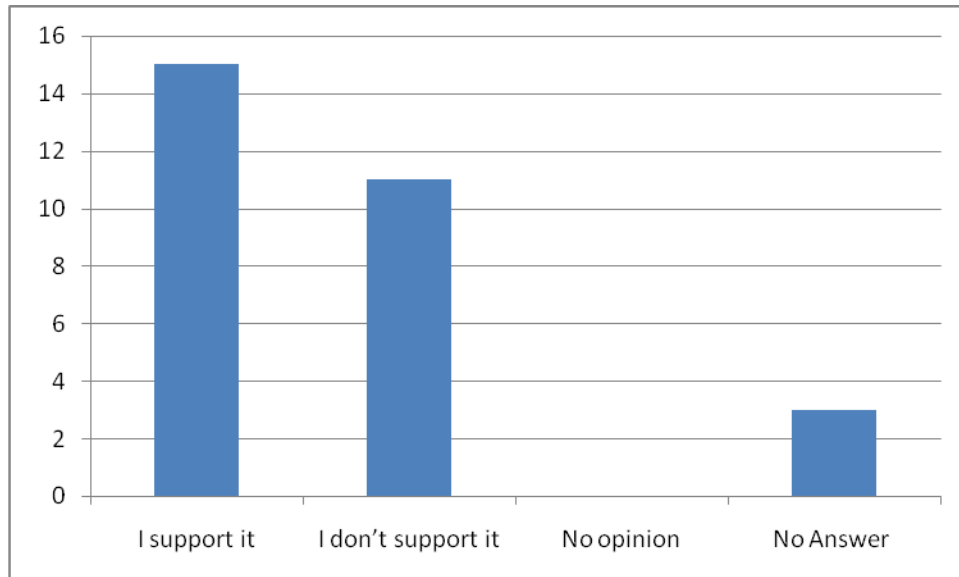
9. How informative were the display materials?



Comments from this question:

- A clear waste of paper/plastic, probably didn't use anything on recycled paper. I am quite disgusted by the shiny white display when you plan to dump toxic fuel into our water and mouths.
- Tanker capacities should have been shown, pumping rates could have been included.

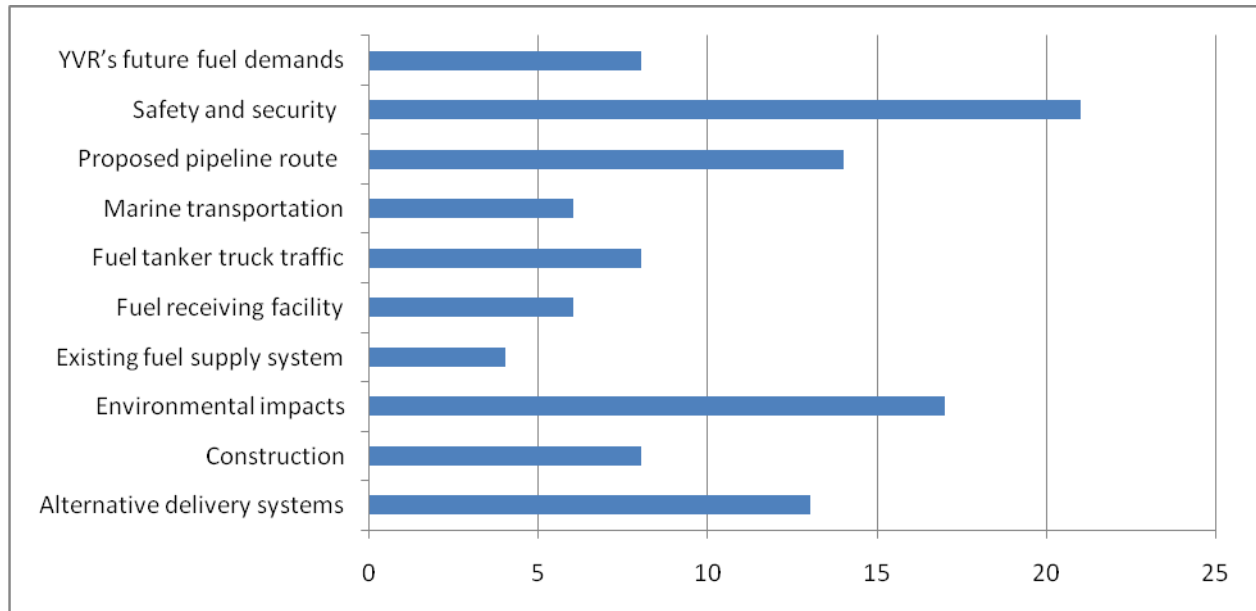
10. Based on what you have learned about it so far, what is your opinion of the Vancouver Airport Fuel Delivery Project?



Comments from this question:

- Have resided in Steveston – Richmond area 48 years and think this is a positive move for our town to be a leader in removing semi-truck travel from our roads.
- The project representatives were very helpful, polite and informative. Thank you.
- I was dead against it but realize that if done properly with full, thorough environmental assessments done by everyone it certainly is an option.
- I do not support the proposed Vancouver Airport Fuel Delivery project. I feel the environmental risks to the Fraser River and the farmlands the pipeline will travel through are too great should an accident happen.
- In no way do I endorse any part of the proposal to ship jet fuel up the Fraser River or to build a pipeline through Richmond to transport jet fuel.
- I support it but there has to be a different way to get it there. Build a terminal off [the] airport.
- Replace existing pipelines. Ship fuel in on west side directly and restructure shore line as needed.
- The route is disruptive and poses safety hazards.
- Option number 14 is supportable as it minimizes the risks.
- As Richmond residents living close to Williams and No. 5 Road and an ever present concern – re: earthquakes – an under-surface pipeline is a no go.

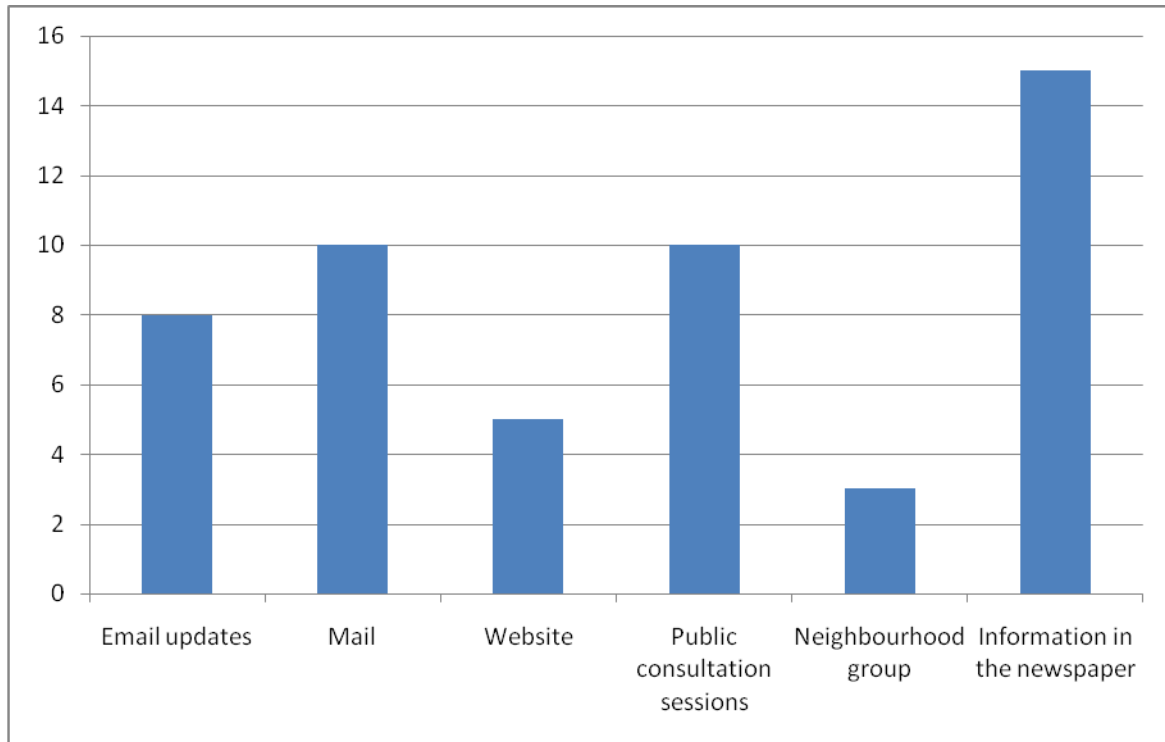
11. As we continue the consultation process, what topics would you like more information about?



Comments from this question:

- The whole system and engineering intrigues me because it is my employment.
- I asked about the idea of having the barges off-load right at the airport, but this option had been considered and was still a possibility although not the primary or preferred route.
- Hopefully it doesn't go up – (in reference to YVR's future fuel demands).
- Fuel barged or by tanker up south arm I definitely would not support.
- None, I do not support any part of the Vancouver Airport Fuel Delivery Project, to ship jet fuel up the Fraser River or to build a pipeline through Richmond to transport jet fuel.
- No one says why YVR can't get away with demanding more fuel. That's the root of this (your) problem and that is where the solution can be found. Be happy you have jobs, try and do them better (higher quality, not quantity).
- Potential explosion due to escaping vapors being ignited, fuel contaminating river and our living areas.
- Why not continue the existing pipeline/trucking routes, making trucking deliveries in the late evening early morning to avoid traffic.
- Shorter supply route with delivery right onto Sea Island would be much better option.
- Alternative pipeline delivery route – less disruptive, [as] proposed route may be unsafe.
- The owners of the current pipeline are confident of the pipes' quality and indicate flow capacity can be increased as need arises.

12. As consultation continues, how would you like to be kept informed and consulted?



Note: Some chose more than one answer

Comments from this question:

- Instead of No. 5 Road to Westminster, move to freeway 99 or go up No. 6 Road.
- Tell us when you are backing away from any further storage at YVR and any new pipeline routes. That will be a good news story for once. I'd like you to organize a few interactive roundtables on this debate.
- If barging jet fuel up the estuary was a bad idea in 1988, what has changed?
- Would it be possible to take a tanker to Sea Island and unload? This would eliminate trucking, piping, and rupture of any pipeline. Dredging of the Fraser River for future development on Sea Island.
- Well presented.
- Innovative engineering can resolve environmental and construction concerns.
- Accurate information in the newspaper.

13. Any other comments

- I live in Caithcart and would prefer that if the pipeline proceeds along Shell Road, that it also go along Bridgeport and not the alternate (Bird Road).
- Get on with construction.
- I have concerns that the waterway needs constant dredging and would need to be watched as the ground is sandy and shifts. Wildlife/fishery concerns if there is any kind of accident – also to communities nearby wherever the route is. Vessels would have to be newer – double hulled etc.
- Alternatives floating or fixed terminal 4, 12, 13 seem better – shortest route to airport, less impact on people, cost-effective. No pipeline through Richmond.
- Options – route 4-12-13 only.
- Yes, if a terminal is built at [the] airport, lots of dredge work [will be required]; but think this is better way than building a pipe line across the whole island.
- It is critical to have an emergency response contingency fund in place prior to development - this will ensure the city, province and federal governments will not be on the hook for clean-up cost in the event of an accident. Insurance companies will do their best not to pay out.
- It makes sense for security resources to have a pipeline – build.
- When the proposal is firm, more information on the construction and disturbance on a neighbourhood would be proper, [including] addresses.
- I do not support the project!
- You follow best practices in environmental/responsibility; well what are they? I'm sure I can come up with better ones like cancelling this whole project and consulting with YVR to use less (not more) fuel in the future.
- Publicize it in larger display ads and show both sides with community concerns instead of little articles here and there to escape attention.
- Instead of disrupting and threatening local neighbourhoods with the proposed pipeline, continue to improve the existing lines. The proposal is too costly.
- The South Arm route has much more potential for major environmental damage. Refurbish the existing pipeline.
- Before this is an encroachment on the city of Richmond and residents, it should put up to a plebiscite.
- Pipeline would stop a lot of pollution by tanker trucks.
- A less costly solution is to use accreted land north of Garry Point Park. Dredge deep water channel. Build low level temporary storage tanks. Build pipeline adjacent to dyke to south side of airport. Use silt from river to build containment dykes and fill to avoid spillage into Georgia Strait.
- Consideration (should) be given toward a rail line delivery system if the current pipeline is inadequate, at least the system would be above ground and hopefully in the event of an earthquake/terrorist attack the delivery could be handled quicker and safer.

OTHER SUBMISSIONS

Comments on the project were also received through VAFFC's website (www.vancouverairportfuel.ca), email (info@vancouverairportfuel.ca), phone (604.638.7463) and fax (604.684.6981). In total, 19 such submissions were received by March 31.

Other Submissions	Number
Website	11
Email	3
Phone	4
Fax	1

Submissions ranged from questions to comments to solicitations of business. Of the 19 received, eight expressed concerns or opposed the project, two expressed support, seven asked questions and two were about business opportunities.

This summary is for the months of February and March only, leading up to and following the information sessions.

It is expected that additional submissions will be made through these avenues as the project review process proceeds.

APPENDIX B

Stakeholder Outreach Summary Report (September, 2008 through Summer 2009)

**Vancouver Airport Fuel Delivery Project
Stakeholder Outreach Summary Report
Fall 2008- Summer 2009**

Prepared by NATIONAL Public Relations

Introduction

In fall 2008 and continuing into summer 2009, Vancouver Airport Fuel Facilities Corporation undertook a number of initiatives to share information about the proposed Vancouver Airport Fuel Delivery Project with community, business and other stakeholders. These activities included meetings, presentations, distribution of a project brochure, launch of a project website (May 2009) and responding to enquiries or comments sent into the project office. These activities are summarized below.

In addition, four public Information Sessions were held in February and March 2009. These are summarized in a separate document.

Meetings – 2008

NAMES	ORGANIZATION	MONTH
Andrew Nazareth, Terry Crowe, Robert Kates	City of Richmond staff	September
Jerry Dobrovolny, Brian Crowe, Judy Rogers	City of Vancouver	September
Jack Baryluk	BCIT – Aerospace Campus	September
Katie Emery	Tourism Vancouver	September
Shaun McGill, Paula Kolisnek	Corporation of Delta staff	October
Tony Guglielmin, Jeff Hewitt	Canada Line	October
Larry Berg, Anne Murray, Bob Cowan	Vancouver Airport Authority	October
Tom Prendergast	TransLink	October
Anne McMullin	Port Metro Vancouver	October
Darcy Rezac	Vancouver Board of Trade	October
John Winter	BC Chamber of Commerce	October
Environmental Advisory Committee (Stakeholder Committee)	Vancouver Airport Authority	November

Meetings – 2009

NAMES	ORGANIZATION	MONTH
Mark Griggs, Carlos Felip, Sharleen Suszezewicz, Sarah McPherson, Lindsay Colin	Port Metro Vancouver	January
Terry Crowe, Brian Jackson and representatives of several city departments	City of Richmond staff	January
George Duncan	City of Richmond staff	February
Terry Crowe, John Irving, Kim Decker	City of Richmond staff	March
John Cummins	MP – Delta-Richmond East	March
John Yap	MLA – Richmond-Steveston	April
Linda Reid	MLA – Richmond East	April
Greg Halsey-Brandt, Derek Dang	Councillors – City of Richmond	April
Alice Wong	MP – Richmond	April

Evelina Halsey-Brandt	Councillor – City of Richmond	April
Ken Johnston	Councillor – City of Richmond	May
Sue Halsey-Brandt	Councillor – City of Richmond	May
Linda Barnes	Councillor – City of Richmond	May
Mike Brotherston, Hugh Fraser	Corporation of Delta staff	June

City of Richmond Presentations – 2009

City of Richmond	MONTH
Public Works and Transportation Committee	February
Council Meeting	June

Requests for Information or Comments – 2009 (to August)

NAME	ORGANIZATION	MONTH
Fred Lee	Richmond neighbourhood coalition	February
Kyle Caplette	N/A	February
Carmen Ciubotariu	N/A	February
Gordon Edge	N/A	February
Daniel Leung	N/A	March
Peter Ng	N/A	March
Maureen Otway	N/A	March
Bill Pekonen	N/A	March
Nancy Berger	N/A	March
Don Flintoff	N/A	March
Christiane Wilhelmson	Georgia Strait Alliance	March
Don Pitcairn	Surrey United Naturists	June
John Werring	David Suzuki Foundation	July
Vickie Van Dyken	N/A	August

Project Brochure Mailout – Spring 2009

NAME	Position	ORGANIZATION
Federal		
Michael Henderson	Regional Director General, Pacific Region	Transport Canada
James Lawson	Regional Director, Marine Safety	Transport Canada
Lori Young	Regional Director, Programs	Transport Canada

Michele McKenzie	President and CEO	Canadian Tourism Commission
Provincial		
Hon. Barry Penner	Minister	BC Ministry of Environment
Joan Hesketh	Deputy Minister	BC Ministry of Environment
Hon. Kevin Falcon	Minister	BC Ministry of Transportation and Infrastructure
John Dyble	Deputy Minister	BC Ministry of Transportation and Infrastructure
Robin Junger	Associate Deputy Minister	BC Ministry of Environment, Environmental Assessment Office
Martha Anslow	Project Assessment Officer	BC Ministry of Environment, Environmental Assessment Office
Business Associations		
Yeun Pau Woo	President and CEO	Asia Pacific Foundation
Jill Price	Executive Director	Asia Pacific Foundation
Earle Wilde	President	BC & Yukon Hotel Association
Ken McNicol	Chair	BC Aviation Council
Virginia Greene	President and CEO	BC Business Council
Jock Finalyson	Executive Vice-President, Policy	BC Business Council
John Winter	President and CEO	BC Chamber of Commerce
Mike Roman	President	BC Coast Pilots
Manley McLachlan	President	BC Construction Association
Andy Smith	President and CEO	BC Maritime Employers Association
Manmohan Singh Kang	President	BC Taxi Association
Brad Eshleman	President	BC Wharf Operators Association
Stephen Brown	President and CEO	Chamber of Shipping BC
Richard Chappell	Chairman	Chamber of Shipping BC
Phillip Nelson	President	Council of Marine Carriers
Stephen Regan	President	Council of Tourism Associations of BC
Greg Muirhead	President	Delta Chamber of Commerce
Peter Roaf	Executive Director	Delta Chamber of Commerce
Mike Armstrong	Captain	Fraser River Pilots
David Majoribanks	Captain	Fraser River Pilots
Philip Hochstein	President	Independent Contractors and Business Association of BC
Kevin Obermeyer	President and CEO	Pacific Pilotage Authority
Henry Beh	Executive Director	Richmond Chinese Community Association
Tung Chan	CEO	SUCCESS
Rick Antonson	President	Tourism Vancouver
Katie Emery	Destination Development and 2010	Tourism Vancouver

	Projects	
Darcy Rezac	Managing Director	Vancouver Board of Trade
Bernie Magnan	Chief Economist	Vancouver Board of Trade
Resident Associations		
Bal Want Sanghera	President	Cambie Road Community Association
Kuo Wong	President	City Centre Community Association
Nora Wright	President	East Richmond Community Association
Terri Martin	President	Sea Island Community Association
Karen Adamson	President	South Arm Community Association
Ben Branscombe	President	Steveston Community Association
Gerald Galasso	President	Thompson Community Association
Hans Havas	President	West Richmond Community Association
Others		
Margaret Mahan	Executive Director	Better Environmentally Sound Transportation
Jack Baryluk	Acting Associate Dean	BCIT Aerospace Technology
Mike Menzies	Director, Terminal Operations	BC Ferries
Craig Dougans	Manager, Response & Operational Standards	Burrard Clean/Western Canadian Marine Response Corporation
Tony Guglielmin	Senior Vice President, Finance and CFO	Canada Line Rapid Transit Inc.
Jeff Hewitt	Senior Vice President, Engineering	Canada Line Rapid Transit Inc.
Jane Bird	President	Canada Line Rapid Transit Inc.
Scott Roberts	General Manager	Gray Line of Vancouver
John Hansen	President	Northwest Cruiseship Association
Tom Prendergast	CEO	TransLink