Vancouver Airport Fuel Delivery Project
Environmental Assessment
Decision Statement

December 16, 2013
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December 2013
Vancouver Airport Fuel Delivery Project – Environmental Assessment Decision Statement

This Environmental Assessment Decision Statement summarizes the harmonized federal and provincial environmental assessment review of the proposed Vancouver Airport Fuel Delivery Project (VAFD Project or the "Project"). The environmental assessment review was completed by the Vancouver Fraser Port Authority (VFPA), doing business as Port Metro Vancouver (PMV), in order to meet the requirements of the Canada Port Authorities Environmental Assessment Regulations as promulgated under the Canadian Environmental Assessment Act, 1992 (CEAA 1992). In July 2012, the federal Minister of the Environment designated that this Project and the environmental assessment continue under the Canadian Environmental Assessment Act (1992). An environmental assessment was required as the proposed Project requires land and waterlot leases from the VFPA.

Project Identification

Vancouver Airport Fuel Facilities Corporation (VAFFC, the "Proponent") proposes to construct and operate a new aviation fuel delivery system that it has determined necessary to meet the future fuel requirements at the Vancouver International Airport (YVR). YVR has experienced significant growth over the last two decades, driving demand for aviation fuel. During the same time, local fuel refining capacity has declined from four refineries to one, and a U.S. refinery in Washington now supplies the majority of fuel for YVR.

The existing pipeline system is owned by TransMountain (Jet Fuel) Inc. (TMJ) and supplies 80% of YVR’s fuel, while the remaining 20% is supplied by tanker trucks from the Cherry Point Refinery in Washington, USA. Of the fuel supplied by the existing pipeline system, 40% is from domestic supply from the Chevron’s Burnaby Refinery. Currently YVR requires between 25 to 35 tanker truck deliveries per day from the Cherry Point Refinery to supplement the pipeline supply and meet demand. Without a new fuel delivery system, any incremental growth in fuel demand at YVR will need to be met by additional tanker truck deliveries.

The Proponent reports that the limitations of the existing pipeline system, coupled with the diminished refining capacity in the Lower Mainland, has made access to competitive offshore sources of fuel critical to supply the expected growth of airline activity at YVR.

The proposed Project consists of the following key components and activities:

- Upgrade of an existing marine terminal wharf located on the Fraser River within fee simple land owned by the Proponent and within Provincial waterlot administered by VFPA through a head lease;
- Construction and operation of facilities at the marine terminal for unloading aviation fuel (on fee simple land owned by VAFFC);
- Construction and operation of a new aviation fuel receiving facility on VFPA land;
- Construction and operation of a fuel transfer pipeline from the marine terminal to the aviation fuel receiving facility;
• Construction and operation of a new aviation fuel delivery pipeline from the fuel receiving facility through Richmond to facilities at YVR; and
• 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 proposed Project would be located on Lulu Island and Sea Island in Richmond, BC.

**Marine Terminal**

The marine terminal is located on the north shore of the South Arm of the Fraser River, approximately 21 kilometres upstream from Sand Heads on land owned by the Proponent. The property includes a berthing structure and has an existing water lot lease within VFPA jurisdiction that the Proponent would lease.

**Fuel Receiving Facility**

The proposed fuel receiving facility would be located on the north shore of the South Arm of the Fraser River on approximately 4.8 hectares (12 acres) of industrial-zoned VFPA land. The proposed fuel receiving facility would be located on land owned by VFPA that the Proponent would lease. This site is currently used for industrial purposes.

**Fuel Transfer Pipeline**

The proposed fuel transfer pipeline would connect the marine terminal with the proposed fuel receiving facility. The proposed pipeline would be located on the Proponent’s marine terminal property and on land owned by VFPA that the Proponent would lease, with a crossing under Williams Road which is owned by the City of Richmond.

**Fuel Delivery Pipeline**

The proposed fuel delivery pipeline would cross Lulu Island and the Moray Channel to YVR on Sea Island, from the proposed fuel receiving facility north to the Francis Road right-of-way, west along the Francis Road right-of-way to Highway 99, north along Highway 99 to the Westminster Highway, Northwest along Highway 99 to Bridgeport Trail, west and then northwest along Bridgeport Trail to Van Horne Way, southwest along Van Horne Way to Charles Street, west along Charles Street to River Road, northwest along No. 3 Road right-of-way and continue across the Moray Channel to YVR.

The proposed fuel delivery pipeline would be located on lands owned by the City of Richmond for the small portions of the route outside the Highway 99 alignment on Lulu Island. The portions of the proposed fuel delivery pipeline along Highway 99 would be under provincial jurisdiction and would require a permit from Ministry of Transportation and Infrastructure (MOTI). The portion of the pipeline under Moray Channel would be located within VFPA jurisdiction. The portion of the pipeline on Sea Island would be located within Vancouver International Airport jurisdiction.
Environmental Assessment Documentation and Available Information

- Including the Addendum, Revisions to Section 5.4, and Supplements 1 through 5.


*Vancouver Airport Fuel Delivery Project, Tracking of Agency and First Nations Comments/Issues and Proponent Responses as Identified During the Formal Review and Comment Period for the Application for an Environmental Assessment Certificate*, Vancouver Airport Fuel Facilities Corporation, April 23, 2012 (Rev. 2)


- Relevant sections of the above report (the Environmental Assessment Report, or EAR) are referenced throughout this Decision Statement.

The above documents are also available on the BC Environmental Assessment Project Information Centre (ePIC) website at [http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_346.html](http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_346.html).

Environmental Assessment Requirements

Federal Environmental Review

VFPA is a designated Canada Port Authority under the Canada Marine Act and is accountable to the federal Minister of Transport. VFPA has responsibility for managing federal property, and administering over 16,000 hectares of water, nearly 1,000 hectares of land, and assets along more than 600 kilometres of shoreline.
As a Canada Port Authority, the VFPA is subject to the Canadian Environmental Assessment Act (CEAA) and must assure itself that projects it authorizes do not result in significant adverse environmental effects. A federal environmental assessment for the proposed project was initiated under the former Canada Port Authority Environmental Assessment Regulations (CPA EA Regulations), pursuant to the Canadian Environmental Assessment Act (CEAA, S.C. 1992, c.37). The Regulations were triggered because the proposed Project requires land and waterlot leases from the VFPA.

When CEAA 1992 was replaced with CEAA 2012 in July 2012, the proposed Project was designated by the federal Minister of Environment to continue as if CEAA 1992 had not been repealed. The proposed VAFD Project is a Designated project and has been reviewed in accordance with the CPA EA Regulations and CEAA 1992.

The proposed Project has undergone a harmonized federal-provincial screening level environmental assessment that considered factors including:

- Environmental effects of the proposed Project, including the environmental effects of malfunctions or accidents that may occur in connection with the proposed Project and any cumulative environmental effects that are likely to result from the proposed Project in combination with other projects or activities that have been or will be carried out;
- The significance of the environmental effects referred to above;
- Comments from the public that are received as part of an assessment process, if any; and
- Technically and economically feasible measures that would mitigate any significant adverse environmental effects of the proposed Project.

The environmental effect, or change that the proposed Project may cause on the environment, also includes consideration of the effect of any change on health and socio-economic conditions, physical and cultural heritage, First Nations traditional uses, and historical structures, sites or objects. The assessment also evaluates the effects of the environment on the proposed Project, which is included in the CEAA 1992 definition of “environmental effects”.

**British Columbia Environmental Review**

BC's EA process identifies and evaluates a proposed project’s potential adverse environmental, economic, social, health, and heritage effects as required by the BC Environmental Assessment Act (BC EAA).

The EA process is divided into two stages, the pre-application stage and the application review stage. The pre-Application stage sets out the methods and procedures for the EA and determines the information required in a Proponent's application for an EA certificate. The Application Review stage evaluates the Proponent’s Application and concludes with an assessment report that summarizes the findings of the EA and a referral to provincial Ministers for their decision of whether to issue an EA Certificate.
On November 28, 2008, the Proponent requested that the Executive Director of the British Columbia Environmental Assessment Office designate the proposed Project as a reviewable project under section 7(3) (a) of the Act. On January 19, 2009, the Proponent provided EAO with a Project Description to support their request to enter the EA process. The Proponent also provided EAO with letters from City of Richmond, YVR, VFPA and the Fraser Basin Council supporting the Proponent’s request to enter the provincial EA process. On February 10, 2009, the proposed Project was designated as reviewable by EAO’s Executive Director. Reasons for this decision were:

- The proposed Project would require 2.78 PJ of energy storage capacity, which is close to the 3.0 PJ threshold for energy storage facilities in the Reviewable Projects Regulation under the Act;
- The proposed Project has the potential to result in significant adverse environmental, economic, health, heritage and social effects; and
- It was expected that the proposed Project would generate strong public views, and that EA would be in the public interest.

Once designated as a reviewable project under the Act, EAO undertook an EA for the proposed Project. The proposed Project cannot proceed, or receive any provincial permits unless an EA Certificate is issued by its Ministers.

**Harmonized Environmental Review**

To avoid uncertainty and duplication, the VFPA and the BC EAO undertook a coordinated environmental assessment review in accordance with the Canada-British Columbia Agreement for Environmental Assessment Cooperation (the Agreement, 2004). The Agreement provides for coordinated EA processes where a project is subject to review under both the CEAA and BC EAA. Pursuant to this Agreement, BC and Canada (as represented by VFPA) will each make EA-related decisions within its own legislative authority and timelines.

The cooperative federal and provincial environmental assessment includes consideration of the potential environmental, socio-economic, heritage and health effects of the Project, taking into account mitigation measures to prevent or reduce any potential adverse environmental effects.

In making it’s federal decision, VFPA considered the joint provincial and federal VAFD Project Assessment Report and Screening Report (December 14, 2012), including the implementation of any mitigation measures, and comments from First Nations and the public.

The VFPA, in making its decision, also took into consideration the Spill Preparedness and Response Internal Interim Report by the BC Ministry of Environment (MOE) and the three volume report, West Coast Spill Response Study dated March 28, 2013 and July 19, 2013, prepared by Nuka Research & Planning Group, commissioned by the BC MOE and publicly released on October 10, 2013.
In July 2013, a jet fuel spill occurred into Lemon Creek in the West Kootenay near Nelson, BC. The findings from this event and subsequent studies have not been released at this time pending legal action and therefore have not been considered in this environmental assessment. The Proponent has volunteered to incorporate lessons learned into the Project in later discussions with Environment Canada regarding further wildlife studies (refer to the VAFFC letter to EAO, dated November 13, 2013).

Information and records relating to the environmental assessment for the proposed Project are available on the BC EAO’s electronic Project Information Centre (ePIC) at http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_346.html.

Requirements of Other Agencies

Following completion of the harmonized environmental assessment review process and decisions by the respective federal and provincial decision makers, the Proponent will be required to obtain applicable federal, provincial and municipal permits to construct and operate the proposed Project.

Of note, federal development permits are required for the marine terminal upgrades, the lease agreements for the fuel receiving facility and the water lot, permits for activities required for work in and around the Fraser River during construction and operation, and permits for work on airport lands. The key federal permitting agencies include the VFPA and the Vancouver Airport Authority.

The Proponent will be required to obtain provincial permits for the pipeline right-of-way and associated activities in the right-of-way, construction and operation of the marine terminal and the fuel receiving facility, and safety of the proposed Project components. Key provincial permitting agencies include Ministry of Transportation and Infrastructure (MOTI), and the BC Oil and Gas Commission, which has regulatory authority over pipelines and associated facilities in BC.

Municipal permits may be required from the City of Richmond, such as a development permit and municipal access agreements for the proposed pipeline sections that would be located on City property.

Expert Federal Authorities

The Canadian Environmental Assessment (CEA) Agency, VFPA, Environment Canada (EC), Transport Canada, Health Canada, Canadian Transport Agency, Canadian Coast Guard, Aboriginal Affairs and Northern Development Canada (formerly Indian and Northern Affairs Canada), the Vancouver Airport Authority, and Fisheries and Oceans Canada (DFO) participated in the pre-application stage of the EA of the proposed Project. Once the Application was submitted, the CEA Agency indicated that it would no longer actively participate in the EA, since it was determined that the sole trigger was related to VFPA’s potential lease of land to the Proponent in support of the proposed Project.
Starting with the submission of the Application, VFPA led the federal environmental assessment review. During Application review, DFO, Transport Canada, Health Canada, Canadian Transport Agency, Canadian Coast Guard, Aboriginal Affairs and Northern Development Canada (formerly Indian and Northern Affairs Canada), the Vancouver Airport Authority, and EC participated in the EA of the proposed Project.

Proponent consultation on the Project with federal, provincial and local government agencies occurred primarily through use of a Project Working Group (WG), comprised of representatives from federal, provincial, local and First Nations governments, and First Nations. The WG was used to identify, document and resolve Project related issues.

Federal comments received during the cooperative review are reflected in the EAR and have informed the analysis and conclusions.

**Local Government**

Local Governments, including the City of Richmond, Corporation of Delta and Metro Vancouver, were invited to participate as members of the Working Group for the EA. In addition to comments received on key EA documents, the City of Richmond and Corporation of Delta adopted motions during council meetings with respect to the proposed Project.

Since 2009, the City of Richmond stated opposition to the proposed Project and adopted resolutions at several Council meetings citing that:

- A review of alternatives to the proposed Project be conducted and that the proposed Project not include a marine terminal on the south arm of the Fraser River;
- It is opposed to a marine terminal on the south arm of the Fraser River, a new pipeline through Richmond farmland and urban areas and any increase in trucks carrying aviation fuel on City streets\(^1\).
- Open houses and public consultation were inadequate.
- The preference would be the continued use of Kinder Morgan Pipeline\(^2\) and/or upgrading it as necessary or alternately a location on the North Arm close to the airport;
- The Council is opposed to transportation of jet fuel on any arm of the Fraser River;
- The Council remains opposed to the route of the proposed Project and instead supports the expansion and upgrading of the existing Kinder Morgan Pipeline.
- It insists that a federal environmental assessment be undertaken\(^3\); and
- The Council remains opposed to the proposed Project.

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1 This resolution was made before the Proponent changed their preferred pipeline route, as described in the Highway 99 Addendum.
2 This reference was intended to be the TransMountain (Jet Fuel) Inc. pipeline rather than Kinder Morgan.
3 A federal EA has been required since March 8, 2010 when a federal ‘Notice of Commencement’ was issued.
Delta Council adopted a motion on November 5, 2012 advising EAO of Delta’s concerns and opposition to the proposed Project until such time as a full understanding is provided on potential pipeline options and to invite EAO staff to attend a future council meeting.

All issues raised by local governments during the review and within the scope of the project have been considered in the review process.

Consultation and Communication

Section 3 of EAR summarises activities undertaken to communicate the objectives of the Project to stakeholders and the public, consult on project elements, and address related concerns. Stakeholders included federal, provincial and local governments, First Nations, and the public.

Three public comment periods were held to solicit feedback on the following documents:

- The draft Application Information Requirements (dAIR) – A 45-day comment period was held in April-May 2009; 86 comments were received. The key issues raised were terrestrial and marine accidents and spills, and alternatives to the proposed Project design. Approximately 90 individuals attended the two open houses held during that time.

- The Proponent’s Application – A 60-day comment period was held in February-April 2011; 356 comments were received. The key issues raised were safety and health concerns for people living along the pipeline route, and the risk of impacts to the marine environment from an aviation fuel spill into the South Arm of the Fraser River from an accident or malfunction during proposed Project operations. Approximately 75 individuals attended the open house held during that time; and

- The Proponent’s Addendum – A 21-day comment period was held in January-February 2012; 125 comments were received. The key issues raised were safety and health concerns for people living along the pipeline route, and the risk of impacts to the marine environment from an aviation fuel spill into the South Arm of the Fraser River from an accident or malfunction during proposed Project operations. Approximately 125 individuals attended the Open House held during that time. VFPA attended the open house and provided the public with information on the federal EA review process.

The Proponent used the following methods to inform the public of the proposed Project:

- Advertising in the local newspapers and on the Project website;
- Sending brochures to, and meeting directly with, specific stakeholder groups;
- Maintaining a dedicated VAFD Project website with project information, including notices of meetings and opportunities to comment;
- Responding to requests for information on its dedicated project phone line and email;

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4 This public comment period was extended based on feedback from the public and the City of Richmond.
Meetings with community and business organizations, public officials, and municipal councils, including presentations at public council meetings; and

Hosting public open houses and information sessions both within and outside of public comment periods.

The key issues and themes identified during the consultation and communications activities have been summarized in the Proponent’s consultation report, Vancouver Airport Fuel Delivery Project Public Consultation Summary Report 2012. This report contains details of the public consultations.

Starting in 2007 the Proponent conducted consultation activities with First Nations, the community, businesses and other stakeholders to share information about the proposed Project. The activities included meetings, presentations, distribution of a project brochure, project website, open houses, and responses to enquiries or comments sent into the project office via email, fax or phone.

Through the consultation activities, key issues and concerns were raised around the location of the pipeline alignment and the potential alternative fuel delivery options. Many other issues were raised and are presented in the consultation summary report.

All issues raised by the public during the review and within the scope of the project have been considered in the review process.

**First Nations Consultation**

VFPA is committed to continued and active engagement with First Nations who may have interests that could potentially be affected by the proposed Project. VFPA has a duty to consult and has been delegated this duty from the federal Minister of Transportation. This duty has been discharged by ensuring appropriate consultation of First Nation interests in respect of the decision by VFPA in respect of CEAA 1992.

The Provincial Crown as represented by the BC EAO also identified a duty to consult.

The following First Nations were consulted given the potential impacts of the proposed Project to their asserted or established Aboriginal or Treaty rights:

- Cowichan Tribes;
- Stz'uminus First Nation;
- Penelakut Tribe;
- Lyackson First Nation;
- Halalt First Nation;
- Lake Cowichan First Nation;
- Semiahmoo First Nation;
- Tsawout First Nation;
- Musqueam Indian Band;
- Hwlitsum First Nation;
• Tsawwassen First Nation;
• Kwantlen First Nation; and
• Tsleil-Waututh Nation.

In addition, the following First Nations were informed about the EA process, given the
strength of their asserted rights in the vicinity of the proposed Project area:
• Qayqayt First Nation;
• Kwikwetlem First Nation; and
• Katzie First Nation

The Proponent’s engagement with First Nations can be found in the Proponent’s First
Nations Consultation Report.

There is often overlap between the interests of First Nations and the assessment of
environmental, economic, social, heritage, and health effects. As a result, First Nations
comments and interests in terms of consultation are considered in the analysis in Part C of
the EAR. First Nations comments and interests that directly relate to the environmental,
economic, social, heritage and health assessments are discussed in Part B of the EAR. In
addition, further and more specific consideration is given to the Crown’s duty to consult and
accommodate First Nation interests in Part C of the EAR.

Part C of the EAR, Section 26 summarizes the key issues and concerns raised by First
Nations, including the following:
• Jet fuel spills
• Asserted aboriginal rights and treaty rights
• Fish and fish habitat
• Birds and bird habitat
• Marine tanker traffic
• Asserted aboriginal title
• Archaeology and disposition of human remains

The issues within the scope of the EA were adequately and reasonably addressed by the
Proponent however consultation with First Nations will continue on an ongoing basis.

**Scope of the Assessment**

The scope of assessment included:
• Relevant background information (which is set out in detail in the Proponent’s
  Application);
• The potential for residual adverse environmental effects, including cumulative
effects, having regard to mitigation measures proposed in the Application or
developed subsequently as a result of public consultations, input from the Working
Group and consultations with First Nations; and
• Whether any residual adverse environmental effects, including cumulative effects, would be significant.

Details of the above are considered in Part B of the EAR. Potential effects of the proposed Project that are the result of an accident or malfunction (such as an aviation fuel spill) were assessed in Part D of the EAR.

The following biophysical components were included in the assessment:
• Fisheries, aquatics and surface water quality
• Vegetation, wildlife and wildlife habitat
• Air quality and climate
• Noise
• Soil and groundwater quality (contaminated sites)

The following socio-economic components were included in the assessment:
• Economic effects
• Social effects
• Aesthetic values and visual resources
• Heritage and archaeology
• Health effects
• Navigable waters and navigation
• First Nations considerations

The above Valued Components (VC) are any environmental, economic, social, heritage, or health components that are considered important by the Proponent, public, First Nations, scientists or government agencies involved in the EA process.

Throughout the EA review the BC EAO and VFPA considered whether the proposed Project was likely to cause significant adverse environmental effects, including potential cumulative effects, using the following assessment components:
• An examination of background information on relevant VCs including:
  o approved land use plans that designate the most appropriate activities on the land base; and
  o historical data, trends and baseline studies that set out the current conditions and factor in effects of prior developments.
• An identification of potential impacts of the proposed Project on relevant VCs.
• An assessment of the potential for residual adverse effects, taking into account the mitigation measures proposed by the Proponent for the proposed Project.
• An identification of potential overlapping impacts due to other developments, even if not directly related to the proposed Project.
• An identification of predicted impacts from future developments that are reasonably foreseeable and sufficiently certain to proceed.
• An assessment of the significance of any residual effects after mitigation, considering
  the following factors: magnitude, geographic extent, duration and frequency,
  reversibility, context, and probability.

The cumulative effects of the proposed Project on VCs were evaluated by VFPA based on
past, present and reasonably foreseeable projects and/or activities. The projects, facilities,
and activities were identified in consultation with various federal, provincial, and municipal
agencies, authorities, and departments.

In addressing what may constitute a “significant” adverse effect, VFPA considered the
following factors:
• 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.
• Probability: The likelihood that an adverse effect will occur.
• Geographic Extent: This refers to the extent of change over the geographic area of
  the 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.

Details on the rationale behind the selection of the above valued ecosystem and social
components for consideration are included in Section 4 of the EAR.

The following factors were considered in completing the assessment:
• The purpose of the Project;
• Environmental Effects of Accidents and Malfunctions;
• Effects of the environment on the Project;
• Criteria for determining Significance of Effects;
• Cumulative Environmental Effects;
• Measures that are technically and economically feasible to mitigate any adverse
  environmental effects; and
• The need for, and the requirements of, any follow-up program.
Spatial and Temporal Boundaries

Potential effects specific to the proposed Project were assessed based on the two main phases of the proposed Project:

- The short-term construction phase (approximately 2.5 years including pre-construction); and
- The long-term operation phase.

Decommissioning and/or abandonment was not addressed in the EA as the operations phase of the proposed Project has a 60-year life span. A separate environmental assessment will be conducted in the future at the time of decommissioning and/or abandonment, as appropriate.

Spatial boundaries for the effects assessment are defined by the characteristics of the proposed Project and the Valued Component being assessed. Spatial boundaries used are defined in each section of the EAR, where applicable.

Temporal boundaries for the effects assessment are also defined by the characteristics of the proposed Project and the VCs being assessed, and include the time prior to proposed Project-related activity (i.e., baseline) and the periods when the VCs will be affected by the proposed Project.

Construction of the proposed Project is expected to commence in 2014 subject to all applicable reviews and permits. Construction is anticipated to last for approximately 24 to 30 months. Activities associated with proposed Project construction include:

- Upgrading the existing marine terminal;
- Construction of the fuel offloading facilities and transfer pipeline;
- Construction of the fuel receiving facility; and
- Construction of the delivery pipeline;

Operations are anticipated to last for at least 60 years following construction, with activities including:

- Periodic vessel transit in the Fraser River to the marine terminal;
- Periodic vessel berthing at the marine terminal;
- Periodic transfer of fuel from vessels through the fuel transfer pipeline;
- Storage of fuel at the fuel receiving facility;
- Intermittent fuel delivery from the fuel receiving facility through the fuel delivery pipeline to YVR; and
- Periodic maintenance activities on proposed Project infrastructure.

Environmental Effects

The following is a summary of the key conclusions of the assessment for each of the biophysical and socio-economic components considered. Specific mitigation requirements identified for each component are included in the EAR and in the Table of Conditions.
attached to this decision statement (Attachment 1 and appended to the BC Environmental Assessment Certificate).

**Biophysical Components**

- **Fisheries, aquatics and surface water quality**: There are not expected to be effects to at-risk fish species and fish species of commercial, recreational and First Nations fisheries due to the pipeline. Sedimentation, accidental exposure to hazardous material and potential acoustic impacts during construction at the marine terminal are the most likely residual effects and these will be mitigated through implementation of appropriate management plans. The majority of potential residual effects are reversible and temporary and for residual effects that are permanent, the geographic extent is limited. With the implementation of mitigation measures described in Section 5.1 of the EAR and having regard to the recommended Conditions in the Table of Conditions, no significant adverse residual effects to at-risk fish species and fish species of importance in commercial, recreational and First Nations fisheries, surface water quality and aquatic habitat are anticipated as a result of the Project construction and operation.

- **Vegetation, wildlife and wildlife habitat**: With the implementation of mitigation measures described in Section 5.2 of the EAR and having regard to the recommended Conditions in the Table of Conditions, the construction and operation of the Project is not likely to have significant adverse effects on riverine and estuarine marshes, terrestrial vegetation, at-risk plant species and plant communities, terrestrial wildlife, aquatic birds, marine mammals, at-risk bird species, and non-avian species at risk. The Application includes a full description of the potential impacts of the proposed Project on valued components and proposed mitigation measures.

- **Air quality and climate**: With the implementation of mitigation measures described in Section 5.3 of the EAR and having regard to the recommended Conditions in the Table of Conditions, no significant adverse residual effects on air quality and climate are likely due to the relatively small net impact that the Project construction and operations would have on area air quality and Greenhouse Gases (GHGs). The levels of GHGs and Criteria Air Contaminants (CACs) would remain within established guidelines.

- **Noise**: With the implementation of mitigation measures described in Section 5.4 of the EAR and having regard to the recommended Conditions in the Table of Conditions, the Project construction and operations are not likely to have significant adverse effects on sound quality.

- **Soil and groundwater quality (contaminated sites)**: With the implementation of mitigation measures described in Section 5.5 of the EAR and having regard to the recommended Conditions in the Table of Conditions, the Project is not likely to disturb high risk contaminated sites that could result in significant adverse effects on the environment surrounding the proposed Project components. The Proponent would be required to adhere to applicable regulations in respect of identifying and remediating any contaminated sites encountered. This would have a net positive effect.
Socio-Economic Components

- **Economic effects**: Employment and economic opportunities are considered to be positive during both Project construction and operation. Section 6 of the EAD describes the economic effects of the proposed Project, during both construction and operations. The Project is not likely to have a residual adverse effect on local, provincial, and federal economies.

- **Social effects**: Land use, vehicle traffic, and community features and recreation activities are considered in Sections 7.2, 7.3, 7.4 of the EAD respectively. Based on the analysis of the potential adverse effects and having regard to the recommended Conditions in the Table of Conditions, the proposed Project is not likely to have significant adverse effects on land use, vehicle traffic and mobility, and community features and recreation.

- **Aesthetic values and visual resources**: As described in Section 7.5 of the EAR, and having regard to the recommended Conditions in the Table of Conditions, the proposed Project is not likely to have significant adverse effects on aesthetic values and visuals.

- **Heritage and archaeology**: None of the documented historic sites in the Richmond Heritage Inventory are within the local study area for the Project and therefore heritage resources were determined not to be affected by the Project. The First Nations village of Tl’uqtinus is associated with lands near the proposed marine terminal and fuel receiving facility. An archaeological site DhRs-26 is located on Sea Island in the vicinity or overlapping the proposed pipeline. In addition DhRs-80 and undocumented archaeological sites are located along the proposed Highway 99 pipeline route. An Archaeological Management Plan would be implemented prior to construction and an Archaeological Impact Assessment would be conducted during construction. Based on the analysis in Section 8 of the EAR, and having regard to the recommended Conditions in the EAR and the Table of Conditions, the proposed Project is not likely to have significant adverse effects on heritage and archaeological resources.

- **Health effects**: Section 9 of the EAR outlines the analysis of the proposed Project and its impacts to noise, air quality, road traffic, existing contaminated sites, and recreation. Based on the analysis and having regard to the recommended Conditions in the Table of Conditions, the proposed Project is not likely to have significant adverse effects to human health.

- **Effects of the environment on the proposed Project**: The evaluation of potential adverse effects of the environment on the proposed Project is a specific requirement under CEAA. Based on the analysis in Section 10 of the EAR and having regard to the recommended Conditions in the Table of Conditions, the environment, including extreme weather and weather-related events, flooding, wildfire, seismic activity, and climate change, is not likely to have significant adverse effects on the proposed Project.

- **Navigable waters and navigation**: Chapter 20 of the Proponent’s Application as well as the independent navigation risk assessment, Fraser River Tanker Traffic Study, by Det Norske Veritas were used to inform the EA review for the proposed Project. Risk
assessment statistical modelling and computer modelling of vessel manoeuvring simulations were applied to a number of specific future scenarios. A number of risk reduction options were presented for consideration. The responsibility for adopting or implementing the risk reduction options lies with VFPA or bodies other than the Proponent. These risk reduction options will be given consideration by VFPA through its permitting process and on-going vessel traffic management process. Risk reduction through improved spill response capability and berthing operations safe practices was addressed by the Proponent in its Application. In consideration of the analysis in Section 11 of the EAR and having regard to the recommended Conditions in the Table of Conditions, navigational issues associated with the proposed Project are not likely to result in significant risk.

Accidents and Malfunctions

The potential environmental, social, economic, heritage and health effects of accidents or malfunctions as a result of the Project during construction and operations were considered during the EA review. Part D of the EAR describes:

- aviation fuel spills at the marine terminal and from vessels (Section 28);
- a pipeline operations spill (Section 29); and
- an accidental fire (Section 30).

- **Aviation Fuel Spills:** Section 28 of the EAR presents the detailed analysis and evaluation of the fate and effects assessment of an aviation fuel spill from the marine terminal and from vessels (at the marine terminal and during transit). It is noted that this was a significant issue to be addressed during the EA. The analysis considered the following:
  - Small <49 barrels may occur during the life of the proposed Project, while a >49 barrels spill would be rare;
  - Measures to reduce the probability of a spill are required Conditions in the Table of Conditions;
  - Spill response measures as described in various project documents, including the Application and OPEP are required Conditions in the Table of Conditions;
  - Assessment of risk considers the level of risk and risk is the product of probability and consequence. With mitigation measures, the risk of a spill is considered to be low;
  - Legislation and regulatory requirements relating to spill response and clean-up;
  - Risk of a spill cannot be entirely eliminated and there is some uncertainty regarding effectiveness of some spill response measures in the Fraser River;
  - There remains some uncertainty regarding potential consequences of an aviation fuel spill on biofilm and additional studies are required;
  - The proposed project introduces the shipping of aviation fuel to the south arm of the Fraser River and a new hazard to that ecosystem;
The risk of vessel spills to the Fraser River delta foreshore from aviation fuel and other bulk liquid hydrocarbon shipments already exists, regardless of the proposed Project; the proposed Project would replace the existing shipping of aviation fuel that currently goes past the river mouth and into Burrard Inlet; and with the mitigations included in the proposed Project and with the Conditions in the Table of Conditions, the proposed Project would enhance spill response capability to the Fraser River for all users.

In consideration of the analysis and the numerous factors as presented in Section 28 of the EAR and having regard to the Conditions in the Table of Conditions, the proposed Project is not likely to pose a significant risk to environmental, social, economic, health or heritage resources due to the potential spill of aviation fuel from a vessel or at the marine terminal.

- **Pipeline Operations Spill**: Probability and consequence of a pipeline spill during construction and operation were evaluated. The primary risk factors associated with the design, construction and operation included external and internal corrosion, operator error and third-party damage. The risk was assessed with and without mitigations. Based on the analysis presented in Section 29 of the EAR and having regard to the recommended Conditions in the Table of Conditions, the proposed Project is not likely to pose a significant risk to environmental, social, economic, health or heritage resources due to a potential pipeline spill.

- **Accidental Fire**: Potential sources of fire during construction include the proposed Project site (as identified in Chapter 15 of the Application). Potential sources of fire during operations could include fire on vessels, at the marine terminal, in storage tanks at the proposed fuel receiving facility and within the delivery pipeline. City of Richmond and members of the public expressed concern regarding safety and potential hazards of the proposed Project. VFPA noted that a hazard assessment for the Fuel Receiving Facility will be required as part of the proposed Project Permit. VFPA also would be requesting Fire Safety Plans and Emergency Response Plans as part of the Project Permit. In consideration of the analysis as presented in Section 30 of the EAR and having regard to the recommended Conditions in the Table of Conditions, the proposed Project is not likely to pose significant fire risk to environmental, social, economic, health or heritage resources due to a potential accidental fire.

**Cumulative Effects Assessment**

The assessment methodology is described in Section 4 of the EAR and specifically Section 4.2 includes the methodology for the assessment of potential significant adverse effects, including cumulative effects.

Cumulative environmental effects are defined as changes to the environment that are caused by an action in combination with other past, present and reasonably foreseeable future human actions. Cumulative environmental effects occur when:
impacts on the natural (biophysical) and social environments take place so frequently or densely that the combined individual effects cannot be assimilated into the environment; or when

the impacts of one activity combine with those of another in a synergistic manner creating a cumulative effect that is at least equal in intensity, or often greater than the total of the individual effects.

Assessment of cumulative environmental effects considers any residual effects that are likely to result from the project in combination with other projects or activities that have been or will be present in a reasonable temporal and spatial scale.

A cumulative effects assessment, undertaken as part of the environmental assessment, considered residual effects (i.e., effects remaining after the application of mitigation) and the significance of those residual effects. The significance evaluation of those residual effects is included in each of the biophysical and socio-economic valued components in Sections 5 through 9 of the EAR.

The cumulative effects of the proposed Project on the valued components were evaluated based on past, present and reasonably foreseeable projects and/or activities. In evaluating what may constitute a significant adverse effect, magnitude, probability, geographic extent, duration and frequency, reversibility and context were considered.

With the implementation of Project related mitigations and Conditions as outlined in the Table of Conditions, no significant cumulative effects are predicted as a result of the potential interactions between the proposed Project and other projects and activities.

**The Spill Preparedness and Response Internal Interim Report and the West Coast Spill Response Study**

In October 2013, the Spill Preparedness and Response Internal Interim Report (Interim Report) and the West Coast Spill Response Study (Marine Report) were released by the BC MOE.

The Interim Report is a 12 page document that provides a status update on the MOE’s policy development on spill preparedness and response. It highlights that work is ongoing with provincial, federal, local and First Nations governments, industry and stakeholders and that a second Intentions Paper is anticipated in the near future.

The Marine Report consists of three volumes:

Volume 1 includes an assessment of the existing spill prevention and response regime current in place on the west coast of Canada;

Volume 2 includes a vessel traffic study that assesses the current and projected levels of shipping on the west coast; and
Volume 3 makes recommendations regarding the elements of a world-class oil spill prevention, preparedness and response system in the context of present and future oil spill risk from marine vessels.

The BC EAO invited the Working Group to provide comments on the reports. The City of Richmond, Corporation of Delta, BC MOE, Transport Canada, Environment Canada and VFPA all provided comments on the reports as summarized below:

The City of Richmond
In its comments, the City of Richmond notes that the Marine Report identifies several features of a world-class spill regime that are not present on the west coast of Canada or require enhancement. In closing, the City of Richmond reiterated that Richmond City Council remains opposed to the proposed Project on the basis of environmental risk and emergency response capabilities.

The Corporation of Delta
The Corporation of Delta states that the provincial Land Based Spill Preparedness and Response review is in progress and should be completed, and the improvements identified in the Marine Report be implemented before any decisions are made for the proposed Project.

BC MOE
The MOE noted that the EAR and the Table of Conditions are consistent with both the Interim Report and the Marine Report.

Transport Canada
In its comments, Transport Canada stated that overall all of the components of the project so far have all been relatively minor in respect to the impact that the construction and operation of the facility would have on navigation. In addition, Transport Canada indicated that it requires more information when available to assess if an approval under the Navigable Waters Protection Act is required.

Environment Canada
Environment Canada noted that it’s key mandated interest in the assessment of the proposed Project relates to understanding the potential effects of a jet fuel spill on migratory birds and their habitats in the Fraser River Estuary. Environment Canada states that the Marine Reports do not add to that understanding. Environment Canada also offered to assist the EAO in understanding Environment Canada’s roles and responsibilities in environmental emergency prevention, response, and recovery.

VFPA
The Marine Report includes 38 recommendations grouped into three areas or elements that are prevention, preparedness and system elements. While the West Coast Spill Response Study indicates that more could be done, it nevertheless highlights that the south coast, and the Vancouver area specifically, has numerous measures and resources already in place to prevent accidents and incidents.
For the proposed VAFD project, the spill response conditions in the Table of Conditions (generated through the environmental assessment review) would be imposed on the Proponent throughout the life of the project and would require the Proponent to comply with current and any future regulatory requirements, including any that may be promulgated in response to the Spill Response Study findings. In addition, the Spill Response Study findings do not indicate that existing technologies and local resources are inadequate to mitigate spills and the risk of spills associated with the VAFD project. It is also noted that the project approval process includes several federal, provincial and local government permitting processes that must be completed, including the Port’s Project Review Process. In that review process, VFPA would require the Proponent to conduct a hazard assessment, as well as work with VFPA to further develop tanker traffic procedures on the Fraser River.

Safety is a top priority and liquid hydrocarbons have been shipped through the port for 100 years without a significant spill incident. VFPA conducted tanker traffic risk and safety studies in 1992 and 2010 for Burrard Inlet and more recently in 2012 for the Fraser River. Currently, as outlined in the Port’s Harbour Operations Manual, tug escort is required for all tankers carrying liquid hydrocarbons and experienced marine pilots are required on board each ship. In addition, in June 2013, VFPA made a submission to the Federal Tanker Safety Panel. The recommendations made in that submission align with the findings of the West Coast Spill Response Study.

VFPA is committed to working with industry and government to further build a “world class” spill preparedness, prevention and response regime.

Proponent Responses

In a November 12, 2013 letter to the BC EAO, the Proponent, provided responses to the comments from the Working Group. The VFPA is satisfied that the Proponent has adequately addressed the comments from the Working Group in respect of the Marine Report and the Interim Report. None of the conclusions of the Marine Report and the Interim Report suggest the proposed Project should not proceed.

Working Group comments on the Marine Report and the Interim Report along with the Proponent responses are available on the BC EAO’s ePIC website for the Vancouver Airport Fuel Delivery Project at http://a100.gov.bc.ca/appsd_data/epic/html/deploy/epic_project_home_346.html.

Monitoring and Follow-up Requirements

Monitoring and follow-up are required as outlined in the mitigations as described in the EAR and in the Conditions as included in the Vancouver Airport Fuel Delivery Project Table of Conditions. Conditions are as appended to this decision document and the BC Environmental Assessment Certificate.

A formal follow-up program as defined by the Canadian Environmental Assessment Act is not required.
Statement of Environmental Assessment Decision

In completing this environmental assessment, VFPA has reviewed and taken into account relevant information available on the proposed Project, has considered the information summarized in the Environmental Assessment Report and Screening Report, and concludes that with the implementation of proposed mitigation measures and Conditions (as listed in the Table of Conditions), the Project is not likely to cause significant adverse environmental effects.

Port Metro Vancouver

Signature  
Darrell Desjardin  
Date  December 16, 2013
Director, Environment and Sustainability  
Environmental Programs Department

Signature  
Carrie Brown  
Date  December 16, 2013
Manager, Environmental Programs  
Environmental Programs Department
ATTACHMENT 1

Mitigations and Conditions

It is the opinion of the VFPA that potential adverse environmental effects associated with the proposed project can be mitigated through the application of the specific mitigations designed into the Project as identified in the Environmental Assessment Certificate Application for the Vancouver Airport Fuel Delivery Project (the Application), the Certified Project Description and the Vancouver Airport Fuel Delivery Project Assessment Report and Screening Report (the EAR) and through the application of the Conditions in Schedule B – Table of Conditions as appended to this decision document.

In addition, the following general conditions shall apply:

General Conditions

The following conditions should be incorporated into the Construction Environmental Management Plan (CEMP) for the Project.

1. All work associated with this project must comply with the requirements of the Fisheries Act, and all other applicable laws, legislation, and best management practices. Note that Section 36(3) of the federal Fisheries Act prohibits the discharge of deleterious substances to waters frequented by fish including indirectly as by storm sewer. Due diligence is required at all times to prevent such discharges and adherence to these conditions does not provide relief from on-going responsibilities in this regard.

2. All works shall be carried out in such a manner so as to avoid any adverse effects on fish or fish habitat. In the event of any adverse effects on fish or fish habitat, the works may be in contravention of Section 35 of the Fisheries Act. Fisheries and Oceans Canada (DFO) has advised that it reserves the right to require the immediate alteration or suspension of operations if such contravention occurs and that the Proponent will be required to undertake, at his or her own expense, any remedial works deemed necessary by DFO.

3. All work associated with the project involving the use of concrete, cement, mortars and other Portland cement or lime-containing construction materials must be conducted in a manner that prevents sediments, debris, concrete (cured or uncured), and concrete fines from being deposited into any aquatic environment, either directly or indirectly. Water that has contacted uncured or partly cured concrete or Portland cement or lime-containing construction materials, such as the water that may be used for exposed aggregate wash-off, wet curing, equipment and truck washing, etc. must be prevented from entering any aquatic environment. Containment facilities should be provided at the site for the wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment as required.

4. Sediment or sediment-laden waters or other deleterious substances shall not be permitted to enter the aquatic environment during the proposed works. All works and activities shall be carried out in a manner that prevents induced sedimentation
of foreshore and near shore areas and induced turbidity of local waters, and the release of sediment, sediment-laden waters, and turbid waters to the aquatic environment. All works shall be in compliance with the following water quality criteria:

a. When background is less than or equal to 50 nephelometric turbidity units (NTU) or 100 milligrams per litre (mg/L) non-filterable residue (NFR), induced turbidity should not exceed 5 NTU or 10 mg/L NFR above the background values.

b. When background is greater than 50 NTU or 100 mg/L NFR, induced turbidity should not exceed the background values by more than 10% of the background value.

c. For the purposes of this letter, background is defined as the level at an appropriate adjacent reference site that is not directly or indirectly affected by works at the site in any way.

5. All equipment working on the project site must be regularly inspected to ensure that it is in good mechanical condition and free from visible evidence of fuel, oil, coolant, solvents or hydraulic leaks. Equipment that is found to be other than in good condition should be removed from the job site immediately.

6. To avoid possible contravention of the Migratory Birds Convention Act and the BC Wildlife Act project-related activities with the potential to harm birds and/or their active nests and eggs should be avoided during the general bird breeding season of March 15th to August 15th. If potentially harmful activities (such as tree removal) must be undertaken during this period, due diligence should be exercised to avoid harm to birds, their eggs and nests, and possible contravention of legislation. Note that the nests of some species of birds are protected under the BC Wildlife Act regardless of the time of year or whether they are occupied or not. It is recommended that qualified environmental professionals be retained to assist in developing and undertaking appropriate bird nest surveys immediately before, during and after the general bird breeding season.

7. Effluents of all types must not be discharged from this site to streams or storm sewers.

8. Any soils excavated from the site during the proposed works must be handled in a manner that prevents their release into an aquatic environment, either directly or indirectly as silt in storm runoff. Excavations must not be dewatered unless an acceptable dewatering plan is in place.

9. A construction soil and groundwater management plan must be in place before construction is started, which should include soil and groundwater management procedures to address any environmental contamination that may be encountered.

10. Any soils excavated from the site that are not suitable for backfill must be disposed of at appropriate off-site facilities in accordance with applicable legislation, guidelines and best management practices. Suspect materials should be treated as contaminated or they should be stockpiled until their environmental quality has been determined.

11. Materials brought onto the property for use as backfill or for site preparation must be from sources known to be clean and free of environmental contamination.
12. Debris and waste materials generated during the works shall be appropriately contained, collected, and disposed of at appropriate upland locations in accordance with all applicable legislation, guidelines, and best management practices. In this regard it should be noted that burning of a wide range of materials, including creosote treated wood, is restricted or prohibited.

13. An appropriate spill prevention, containment, and clean-up contingency plan for hydrocarbon products (e.g., fuel, oil, hydraulic fluid, etc.) and other deleterious substances must be put in place prior to work commencing. Appropriate spill containment and clean-up supplies should be kept available on site whenever the subject works are underway, and personnel working on the project should know the spill clean-up plan and how to deploy the spill response materials.

14. Dust and air emissions associated with construction shall be minimized to the greatest practical extent.

15. A plan must be developed and implemented that will mitigate problematic noise and nuisance arising from project construction. Every reasonable effort should be made to minimize the impact of construction related noise on the surrounding community and environment.

16. During construction, for heavy duty diesel powered road licensed vehicles, every effort should be made to use a model year 2007 or newer. For diesel powered non-road or off-road equipment, every effort should be made to use Tier 3 equipment or better.

17. A qualified environmental monitor shall conduct environmental monitoring and reporting during construction on the effectiveness of mitigations and compliance with regulatory Permits, Approvals and Authorizations. Monitoring activities will be guided by the CEMP.

18. Monitoring for cultural artifacts must be conducted during site preparation and excavations that will enter into native non-fill soils. If archaeological resources are encountered, excavations must cease immediately and the BC Archaeology Branch and/or an individual with appropriate archaeological qualifications must be contacted.

ATTACHMENT 2

Vancouver Airport Fuel Delivery Project Table of Conditions