




**To:** General Purposes Committee  
**From:** John Irving, P. Eng, MPA  
Director, Engineering

**Date:** November 8, 2013  
**File:** 10-6000-01/2013-Vol  
01

**Re: Vancouver Airport Fuel Delivery (VAFD) Project - Environmental Assessment Update**

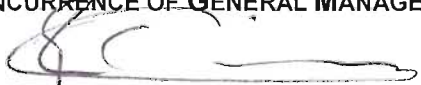

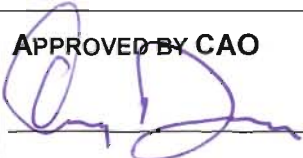
**Staff Recommendation**

That the attached staff report “VAFD Project - Environmental Assessment Update” from the Director, Engineering, highlighting staff comments on the Ministry of Environment *Interim and Marine Reports* and the overall status of the Vancouver Airport Fuel Delivery project, be received for information.

  
John Irving, P. Eng, MPA  
Director, Engineering

(604-276-4140)

Att. 2

<b>REPORT CONCURRENCE</b>	
<b>CONCURRENCE OF GENERAL MANAGER</b> 	
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> 
<b>APPROVED BY CAO</b> 	

## Staff Report

### Origin

The Memorandum dated October 10, 2013 to Mayor and Councillors (Attachment 1) provided an overview of the status of the Vancouver Airport Fuel Delivery (VAFD) project timelines and the Working Group response deadline of November 8, 2013. This report highlights the information contained within the staff response letter (Attachment 2) to the British Columbia Environmental Assessment Office (BCEAO) regarding a review of the *Interim and Marine Reports* related to the VAFD Project.

### Background

On Thursday, October 10, 2013, the BCEAO informed the City that the suspension for the proposed project reviews has been lifted, resuming the harmonized environmental assessment. The Ministers will have until December 24<sup>th</sup>, 2013 to make a decision on issuing the Environmental Assessment Certificate for the project.

The recent suspension was in place in order to provide sufficient timing to complete an interim report on the Ministry of Environment's land-based spill responsiveness (Interim Report) as well as a report on the requirements to establish a world-class marine spill regime (Marine Report). These reports were completed not only in response to the VAFD project, but also other pipeline projects proposed in BC. Recently staff received copies of the environmental spill studies. Working Group members were given until Friday November 8, 2013 to provide input on the two Ministry of Environment (MoE) spill response documents.

### Analysis

#### *Highlights of Interim and Marine Reports*

The following provides a synopsis of the comments staff provided in the November 7, 2013 response to the BCEAO (Attachment 2) for the Interim and Marine reports:

- **Spill Volume:** The Transport Canada requirements for spill response require capability to respond to 10,000T spill, regardless of size of ship. The 10,000 T is inadequate for the vessels being used for the VAFD project.
- **Spill Response Time:** The Transport Canada minimum timelines for delivery of spill response equipment are inadequate for the dynamic currents and tides of the Fraser River estuary.
- **Inadequate Information for Fire Risk Planning:** Assessments of current response resource levels are inadequate for Richmond Fire Rescue (RFR) to create a plan or understand how to support a case-by-case plan. As such, RFR has no information that is helpful for RFR in understanding the risks or preparedness relevant to this project.

- **Liability for Long-Term Impacts:** The current liability limits and federal/international cleanup funds do not protect individuals or communities impacted by long-term environmental damage.
- **River-Specific Risks:** The Marine Report does not acknowledge the distinct risks related to ship movements in a river environment. The Marine Report clearly states “*As traffic increases, areas that were previously at a relatively low risk of an oil spill may be at higher risk*”. There is inadequate protection of the Fraser River and the estuary environment.
- **Unaddressed Components of a World Class Spill Regime:** The reports identify inadequate traffic-management, pilotage and escort vessel programs; vessel-vetting and -inspection measures. There are identified gaps in vital emergency response equipment. The current inventory of existing shoreline and marine ecological and economic resources are inadequate for planning and emergency responses and contingency planning is not coordinated between agencies. Operational tactics are not defined and there is insufficient funding from industry and senior government to implement planning, resources, and exercises. The current funding mechanisms in place do not adequately protect the impacted communities. The Province’s or industry’s commitment to resolving these identified gaps is unclear.
- **Potential to Overwhelm Current Resources:** The fuel receiving facility is outside of recognized industry standard response times for fire and as such requires additional resources to service the facility.

It is unclear how the Province is committed to the implementation of the *Interim and Marine* report recommendations. Due to the lack of consistency between the findings of the two reports and the MoE determination, staff requested that the BCEAO organize a fulsome discussion of this issue with the Working Group and the MoE.

The assumptions used to generate the spill/disaster scenarios as part of the recent studies are generic and do not reflect the unique conditions of the proposed jet fuel off-loading facility at this specific location in the South Arm of the Fraser. The proposed jet fuel off-loading site is adjacent to designated Environmentally Sensitive Areas (ESAs) and within 0.5 km from the closest ESAs with highly valued red coded habitat and others along the same shoreline and across the river. It is staff’s assessment that the recent spill studies do not consider these factors under one single simulated scenario. Emergency response and impact to habitat and residents have not been satisfactorily addressed. The proposed facility is also close to residents, businesses, industries, agricultural operations and within reach from Steveston, the largest commercial fishing port in Western Canada. A fuel spill may have significant impact on the fishing industry, residents, workers, customers and visitors to the surrounding area.

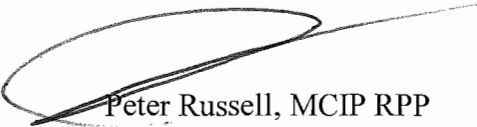
**Recent Information**

On November 2, 2013, the BCEAO shared new information from the Ministry of Environment (MoE) that indicated that *Interim and Marine Reports* were reviewed in consideration of the VAFD Project Assessment Report and Table of Conditions. Their review determined that a number of the components in those reports were outside of the current regulatory regime and that the VAFD Project Assessment Report and Table of Conditions (ToC) satisfy the current regulatory requirements. The findings of the spill reports, however, highlight that BC's current spill response regime is woefully inadequate compared to 'world-class' conditions. To date, the Province has not committed to updating regulations in response to the findings of the spill reports.

The City does not have a copy of the draft ToC forwarded to the Ministry of Environment and is therefore unable to appreciate the scope of the conditions relating to spill preparedness and response. In addition, without a copy of the ToC it is not possible to comment on how many of the City's outstanding concerns are addressed by the *Interim and Marine Reports*. Many of the recommendations from the reports would require an integrated approach involving City departments and resources. Due to the lack of transparency, staff have requested the EAO to immediately release the documentation that has been recently completed for this Environmental Assessment process and referred to the Ministers of Environment and Energy, Mines and Natural Gas.

**Conclusion**

While recognizing that a safe and reliable supply system for jet fuel is integral to the ongoing prosperity of YVR operations, the concerns from Richmond residents and Council remain unaddressed and those concerns are reinforced with the conclusions of the *Interim and Marine* reports.



Peter Russell, MCIP RPP  
Sr. Manager, Sustainability & District Energy

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PR:pr



# City of Richmond

## Memorandum Engineering and Public Works Sustainability

**To:** Mayor and Councillors **Date:** October 31, 2013  
**From:** Lesley Douglas, B.Sc., R.P.Bio. **File:** 10-6125-30-002/Vol 01  
 Manager, Environmental Sustainability  
**Re:** **Vancouver Airport Fuel Delivery (VAFD) Project – Review of Ministry of Environment documentation for spill response.**

As reported in the Thursday, October 10<sup>th</sup>, 2013 Information Memo, the British Columbia Environmental Assessment Office (BCEAO) has lifted the suspension for the VAFD Project.

Recently staff received copies of the environmental spill studies. With the resuming of the VAFD Project Environmental Assessment, Working Group members have until Friday November 8<sup>th</sup>, 2013 to provide input on the two Ministry of Environment (MoE) spill response documents that have been posted to the BCEAO website at

[http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic\\_home.html](http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_home.html). Simultaneously the BCEAO and Port Metro Vancouver will be reviewing the documents and the BCEAO will be submitting a “refreshed” recommendation to the Ministers based on the existing and new information. As the EA timeline has been restarted, the Ministers will now have until December 24, 2013 to make a decision on the EA Certificate for the project.

Staff have reviewed the content of the two documents entitled *Spill Preparedness and Response Internal Interim Report* (Interim Report) and the *West Coast Spill Response Study*, comprised of 3 volumes (Marine Report). The intent of this memorandum is to provide a brief summary of each Report to Mayor and Council.

### Interim Report

The 12 page Interim Report provides a high level status report on MoE policy development relevant to the VAFD Project. Generally this document highlights the land-based spill provisions contained within the *Intentions Paper on Spill Preparedness and Response* as well as the VAFD Project Draft EAO Certificate provisions for land based spills. As well, the Report highlights various land-based spill preparedness and response options being explored by MoE beyond the Draft Certificate Conditions. These include:

- First Nations and community involvement in geographic response plans;
- World-class enforceable spill response standards;
- Appropriate capacity and capability to respond to spills in BC;
- Ensuring restoration objectives for natural resource recovery can be achieved;
- Restitution for loss of public use; and
- Funding.

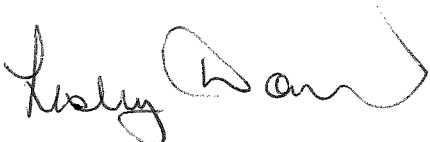
The Report does not provide timelines or other details for these actions which are integral aspects of a successful spill preparedness and response approach for the VAFD Project. The Report suggests the anticipation of a second Intentions Paper on Spill Preparedness and Response for this fall. Staff will notify Council when this Paper is available.

#### Marine Report

The Marine Report was commissioned by BC MoE to Nuka Research and Planning Group, LLC, a marine environmental consulting firm based in Seldovia, Alaska. The 3 volumes in this Report include: Volume 1: Assessment of British Columbia Marine Spill Prevention and Response Regime; Volume 2: Vessel Traffic Study; and Volume 3: World Class Oil Spill Prevention, Preparedness, Response and Recovery System”.

The report describes 38 features that would make up a “World Class” spill response regime, and evaluates the current local, Provincial and Federal measures in place (Attachment 1). In Volume 3, it is shown that of the 38 measures, one is marked green ( “mostly or fully present”), 20 are marked yellow (“only partially present or require enhancement”), and 13 are marked red (“not present”). There are 4 elements that could not be evaluated for lack of data. Overall, the report calls for significant improvement of preparedness levels, and increased investment by senior governments and the transportation industry prior to increasing vessel traffic.

Staff are currently assembling a technical review of the reports, and will provide feedback to the EAO prior to the November 8 deadline. This information supports, in staff’s opinion, the concerns that the Province is currently unable to effectively respond to marine and land-based spills. The attached table is an excerpt from *Volume 3, Summary of Recommendations* that comments on the Province’s readiness to respond to marine based spills. A report will be brought forward to Council that includes this technical submission and further updates.





































Lesley Douglas, B.Sc., R.P.Bio.  
Manager, Environmental Sustainability

LD:ld

Att: 1

pc: SMT  
John Irving, P.Eng. MPA, Director, Engineering  
Peter Russell, Sr. Manager, Sustainability & District Energy

FEATURE	ASSESSMENT
<b>Vessel operations surpass international safety and spill prevention standards</b>	
Vessels meet or surpass international requirements	
Vessels operate in a corporate safety culture that goes beyond compliance	
<b>Vessel traffic is monitored and, in higher risk areas, actively managed to prevent accidents</b>	
Vessel movement data is compiled and archived for analysis	
Vessel traffic is actively managed in high-risk areas	
Marine pilots are required for large vessels transiting certain waterways	
Escort vessels accompany certain vessels in high-risk operating areas	
<b>Rescue and salvage resources can be on-scene quickly enough to be effective after an incident or spill</b>	
Emergency towing resources are available for rapid deployment	
Marine firefighting resources are available for rapid deployment	Not determined
Salvage resources are available for deployment as needed to be effective	
Potential places of refuge are identified in advance	
<b>Geographic areas are prioritized for protection from oil spills</b>	
Marine and coastal resources are inventoried	
A process is in place to prioritize areas for spill protection	
Areas to be avoided are established as appropriate	
Geographic response plans are developed as appropriate	
<b>Contingency planning is comprehensive, integrated, and understood by all relevant parties</b>	
Planning is integrated across jurisdictions and sectors	
Contingency plans address all major spill response functions	Not determined; plans not available
Response planning standards ensure sufficient response capacity to respond to a worst-case spill	
Response operating limitations are identified and mitigation measures established	
Operational tactics are defined	Not known; guide not complete or not available for review

FEATURE	ASSESSMENT
<b>Sufficient equipment can be deployed quickly to respond to a worst-case spill</b>	
Response inventories are up-to-date, accessible, and accurate; resources are tracked during a response	
Response caches are strategically located, stocked, and maintained	
Equipment in the best available for the operating environments, environmental conditions, and potential spilled substances	
Logistical support is in place to support the response	
Spills can be detected, tracked, and modeled as needed to perform the response	
<b>Sufficient personnel are available to respond to a worst-case spill</b>	
Trained responders are available to staff a significant, prolonged response	
All responders and response managers use the same incident management system	
Responders are well-trained and regularly exercised	Not clear
Volunteers are managed to maximize their effectiveness	
<b>A process is in place to restore damaged resources and to promote ecosystem recovery after a spill</b>	
A process is in place to restore damaged resources and promote ecosystem recovery after a spill	
<b>Government ensure compliance and transparency</b>	
Government authorities review and audit industry contingency plans	
Other stakeholders are actively engaged	
Effective enforcement mechanisms are in place	
<b>All parties actively pursue continuous improvement through research and development and the testing of planning assumptions</b>	
A research and development program is in place	
Planning assumptions are verified through drill and exercises, and plans are updated to reflect lessons learned	
Incident reviews support continuous improvement	
Data on spill causality and “near misses” are compiled, analyzed, and used to inform system changes	
<b>Financial mechanisms and resources meet needs from initiating the response through recovery</b>	
Sufficient funds are available from industry and/or government to fully implement planning, response, and recovery	
Fair compensation is given for environmental, fiscal, and/or social impacts	





City of  
Richmond

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November 7, 2013  
File: 10-6125-30-002/Vol 01

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BC Environmental Assessment Office  
2-836 Yates Street  
Victoria BC V8W 1L8

**Attention: Trish Balcaen**  
**Executive Project Director**

Dear Ms. Balcaen:

**Re: City of Richmond Comments for Interim and Marine Reports for VAFD Project**

City staff have reviewed the recently-released reports entitled *West Coast Spill Response Study* ("Marine Report") and *Spill Preparedness and Response Internal Interim Report* ("Land Report"). The City review of these reports is undertaken specifically in light of concerns that the City has expressed regarding the proposed Vancouver Airport Fuel Delivery project (VAFD).

The City does note that the Marine Report describes 38 features that would make up a "World Class" spill response regime, and evaluates the current local, Provincial and Federal measures in place. Of the 38 measures, one (1) is "mostly or fully present" on the BC Coast, 20 are only partially present or require enhancement, and 13 are not present. There are 4 elements that could not be evaluated for lack of data. Although not all of the 38 features specifically address the movement of bulk fuel on the Fraser River, the Report does call for significant improvement of preparedness levels, and increased investment by senior governments and the transportation industry. Some of the relevant concerns parallel those already raised by the City of Richmond and other stakeholders in the Technical Working Group.

- **Spill Volume:** The Transport Canada requirements for spill response require capability to respond to 10,000T spill, regardless of size of ship. For comparison, the VAFD project proposal includes Panamax ships carrying up to 53,000T of jet fuel. The City agrees with the reports that preparation for a "worst case scenario" should recognize the non-zero risk of a ship losing its entire cargo through catastrophic ship loss. This "worst case scenario" approach should be applied to the VAFD project, particularly in light of the ecological resources at risk within the river, estuarine and marine environments.
- **Spill Response Time:** The Transport Canada minimum timelines for delivery of spill response equipment (6 hour response window for a 150T spill up to 72 hour response for a

10,000T spill) are wholly inadequate for the dynamic currents and tides of the Fraser River estuary.

- **Inadequate Information for Fire Risk Planning:** Assessments of current response resource levels from Volume 1 of the Marine Report are inadequate for Richmond Fire Rescue (RFR) to create a plan or understand how to support a case-by-case plan. According to Volume 2 of the Marine Report; “Even taken together, the three volumes of the West Coast Spill Response Study do not constitute a risk assessment, but the information...could be used to inform a future risk assessment...”. RFR agrees with this generalized statement, and finds that Volume 2 has no information that is helpful for RFR in understanding the risks or preparedness relevant to this project.
- **Liability for Long-Term Impacts:** The current liability limits and federal/international cleanup funds do not protect individuals or communities impacted by long-term environmental damage. This may represent a significant impact on residents, businesses and First Nations in Richmond.
- **River-Specific Risks:** Volume 2 of the Marine Report does not acknowledge the distinct risks related to ship movements in a river environment. All of the analyses end at Point Roberts, and all assessments are based on open and protected marine conditions. There is inadequate analysis related to the unique challenges presented by river and estuarine environments of the Fraser River.
- **Growing Risks in River Environments:** Volume 2 of the Marine Report clearly states “*As traffic increases, areas that were previously at a relatively low risk of an oil spill may be at higher risk*”. With increased traffic on the Fraser River proposed by several disparate projects, the City is concerned that the cumulative risk is not being evaluated and that the Fraser River and estuary are inadequately protected.
- **Unaddressed Components of a World Class Spill Regime:** Many of the 30 Features of a “world class” spill prevention and response regime are not in place, according to Volume 3 of the Report. The City acknowledges that not all points are directly relevant to the movement of Jet Fuel on the Fraser River, and some measures that are found inadequate on the North Coast are provided within Port Metro Vancouver’s jurisdictional areas or were addressed in the draft version of the Table of Conditions reviewed by the City, there remain unaddressed components. (In each of the following notes, the superscript numbers reference specific numbered features from Figure 2.1 of Volume 3 of the Marine Report):
  - Various traffic-management, pilotage and escort vessel programs will be required to ramp up concomitant with increased tanker and non-tanker vessel traffic in and around the Fraser River Estuary. A commitment of this increased investment is required from Port Metro Vancouver <sup>[2]</sup>.
  - Current vessel-vetting and -inspection measures should be upgraded to instill the requested on-ship “safety culture”. This should include increased transparency and data-sharing between the Port, the Coast Guard, and other agencies regarding ship movement, safety measures, near-misses, and readiness training <sup>[1, 2, 10, 11]</sup>.
  - There are identified gaps in vital emergency response equipment, including emergency towing vehicles, salvage equipment, and marine firefighting resources. The Port and/or the proponent need to commit to the placement of these resources

- prior to terminal opening, Richmond Fire Rescue (RFR) has specifically requested several times that marine firefighting capabilities be included in the Table of Conditions, and have yet to receive that commitment<sup>[3]</sup>.
- Current inventory of existing shoreline and marine ecological and economic resources is inadequate for planning response priorities or establishing exclusion zones, and no system is in place to update, improve, or manage such an inventory with the closing of FREMP. There is no process in place to restore damaged resources or promote ecosystem recovery, nor is there legislation or a funding model to do so. There is no in-place funding to research and develop this type of recovery response<sup>[4, 8, 10]</sup>.
  - Current response and contingency planning is not coordinated between agencies. The Coast Guard, WCMRC, and PEP operate under different command structures, and it remains unclear to the City who will lead response, where geographic and jurisdictional boundaries are drawn, or what role Municipal responders will be required to fill. There is no process to coordinate drills and exercises to verify planning assumptions, or to provide for the review of incidents across agencies to support improvement<sup>[5, 10]</sup>.
  - Operational tactics are not defined, or are not shared intra-agency. Resource inventories, response gaps, logistical support, the use of trained and volunteer responders are all areas where information is lacking. There is no opportunity for public or government oversight of any contingency plans that may exist<sup>[5, 6, 7, 9]</sup>.
  - There is not sufficient funding from industry and senior government to implement planning, resources, and exercises, nor do the compensation funding mechanisms in place adequately protect the community that will be impacted by a major incident<sup>[11]</sup>.
- **Potential to Overwhelm Current Resources:** While these reports suggest minor improvement in preparedness, RFR still believes that the plans specific to RFR's concerns are not well defined and that a major incident at the proposed marine terminal or along the proposed pipeline corridor has the potential to overwhelm current resources. The fuel receiving facility is outside of recognized industry standard response times for fire and as such requires additional resources to service the facility. RFR reiterates that it is currently unable to provide the type of fireboat, marine firefighting resources, or level of training that is recommended in the Marine Study. RFR agrees that there is no defined firefighting plan other than on board crews to suppress minor fires, and shares this concern. RFR notes that after this extensive period of time and extensive consultation with the project proponent, the vast majority of issues raised in the Marine Study recommendations are not complete and the areas identified as somewhat complete generally lack detail specific enough for action.


As the City has not been permitted to review the Assessment Report or Table of Conditions provided to the Ministers, it is not possible to comment on how many of the City's outstanding concerns are addressed by those documents. As many of the recommendations from the report, especially many of those that make up the summary in Volume 3 of the Marine Report as listed above, would require an integrated approach involving City departments and resources, it is unclear how a commitment to meet these recommendations will be achieved without a level of detailed consultation with the City that has not yet occurred. Furthermore, the City has received the Thursday October 31<sup>st</sup>, 2013 e-mail from Jim Hofweber of the Ministry of Environment (MoE) indicating that the Ministry of Environment has reviewed the Interim and Marine reports. The e-mail also indicates their determination that the VAFD Project Assessment Report and Table of

Conditions are consistent with both spill reports. In absence of a copy of the Table of Conditions reviewed by the MoE, the City is unable to appreciate the scope of the conditions relating to spill preparedness and response. In addition the BCEAO has not provided the opportunity for the City or Working Group members to review the findings of the Marine and Interim report with the MoE as they relate to the VAFD project and a *world class spill response regime*. Due to the lack of consistency between the Nuka review of the reports and the MoE determination, the City requests that the BCEAO organize a fulsome discussion of this issue with the Working Group and the MoE.

To reiterate, Richmond City Council has steadfastly opposed the VAFD project from the outset for a variety of reasons, including environmental risk concerns and emergency response capabilities.

We look forward to viewing the Marine and Interim report comments from other Working Group members on your SharePoint site and the opportunity to engage in a dialogue on this issue in the immediate future.

Yours truly,



Lesley Douglas, B.Sc., R.P.Bio.  
*Manager, Environmental Sustainability*

LD:ld

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John Irving, P.Eng. MPA, Director, Engineering  
Peter Russell, Senior Manager, Sustainability and District Energy  
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Terry Crowe, Manager, Policy Planning  
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