DATE OF APPROVAL: January 31, 2014

APPLICANT: Westshore Terminals Limited Partnership

ADDRESS OF APPLICANT: 1 Roberts Bank, Delta BC V4M 4G5

PROJECT LOCATION: Roberts Bank

PROJECT TITLE: Westshore Terminals Equipment Replacement and Upgrade

PROJECT DESCRIPTION:
For the purposes of this Permit, the Project is understood to include the following "Works" on Vancouver Fraser Port Authority property:

A replacement administration and operations building, demolition of existing buildings, replacement of 2 stacker reclaimers and related yard conveyors, and as well as related utility works.

GENERAL CONDITIONS OF APPROVAL:
1. This Permit is conditional on a valid tenure agreement with respect to the subject premises being in place. NO CONSTRUCTION MAY COMMENCE IN THE ABSENCE OF A VALID TENURE AGREEMENT.

2. This Permit is granted subject to the fulfillment of all other requirements of the Vancouver Fraser Port Authority (VFPA), doing business as Port Metro Vancouver, relating to the Project, and subject to all applicable laws and other necessary approvals being obtained. Prior to commencing construction the Applicant shall ensure that it has complied with all necessary legal requirements and that all necessary regulatory approvals have been obtained. Furthermore, the issuance of the VFPA Project Permit does not preclude compliance with the regulatory processes and requirements of any other applicable agencies.

3. This Permit in no way endorses or warrants the design, engineering, or construction of the construction Works contemplated under this Permit and no person may rely upon this Permit for any purpose other than the fact that VFPA has permitted the contemplated construction works to commence, subsequent to the issuance of this Permit, in accordance with the terms and conditions of this Permit.

4. In consideration of the granting of this Permit by VFPA the Applicant agrees to indemnify and save harmless VFPA against any and all actions, claims, loss, damages or other expenses in any way arising or following from or caused by the granting of this Permit or the construction of Works as contemplated by this Permit.

5. Development shall be generally in accordance with the application submitted by Greg Andrew on behalf of Westshore Terminals Limited Partnership on July 29, 2013, including the attached drawings titled, numbered and dated:
- "Westshore Terminals P2S5 – Terminal Infrastructure Reinvestment Project Site Plan" No.307071-00871-01-MH-DGA-3000, by Worley Parsons, dated November 12, 2013, Revision C;
6. The Applicant shall adhere to the conditions listed on the attached Environmental Review Decision Statement and Schedule of Environmental Conditions No. 13-144.

7. The Applicant is responsible for locating all existing site services and utilities including any located underground and the Applicant shall ensure that these services and utilities are protected during construction and operation of the Project. The Applicant is responsible to employ best practices and meet applicable code requirements with respect to protection of existing site services and clearance between existing and proposed site services. The Applicant is responsible for repair or replacement of any damage to existing site services and utilities, to the satisfaction of VFPA, that result from construction and operation of the Project.

8. Details of any significant proposed changes to the Project or relating to the application must be submitted to VFPA for consideration of an amendment to this Permit.

9. Prior to delivery of any large equipment proposed to be delivered to the site by water, the Applicant shall receive a Marine Event Permit from VFPA.

10. Prior to commencement of construction of any buildings, the Applicant shall submit signed and sealed drawings and professional letters of assurance, and shall obtain a VFPA Building Permit.

11. Prior to commencement of construction of any components not covered by the National Building Code, the Applicant shall submit signed and sealed drawings for the proposed Works approved for construction by a professional engineer licensed to practice in the Province of British Columbia, to the satisfaction of VFPA.

12. Prior to commencement of construction, the Applicant shall provide VFPA with a construction schedule and shall provide VFPA with regular updates of the construction schedule throughout the duration of construction.

13. Prior to the commencement of construction, the Applicant shall submit a Construction Communications Plan to the satisfaction of VFPA, including a proposed community communication strategy and methods, and site contact information available to the public or interested parties.

14. All noise levels resulting from construction activities shall not exceed maximum levels stated in the Corporation of Delta Noise Control By-Law No. 1906 without prior approval from VFPA.

15. The Applicant may place temporary construction trailers on site while this Permit remains in effect, provided that the Applicant shall not connect such trailers to any underground utilities without the prior written consent of VFPA which may include, without limitation and at VFPA's discretion, a VFPA Building Permit.

16. The Applicant shall provide as-built drawings, in both AutoCAD and Adobe (PDF) format, within 60 days of completion of all works.

17. The approved works must commence by January 31, 2015 (the "Commencement Date") and be complete no later than June 30, 2018 (the "Completion Date"). For an extension to the Commencement Date, the Applicant must apply to VFPA in writing no later than 30 days following that date. For an extension to the Completion Date, the Applicant must apply in writing to VFPA no later than 30 days prior to that date. Failure to apply for an extension as required may, at the sole discretion of VFPA, result in termination of this Permit.
Westshore Terminals
Equipment Replacement and Upgrade

Environmental Review Decision Statement
EAP 13-144

January 31, 2014
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Introduction

The Vancouver Fraser Port Authority (VFPA), a federal authority doing business as Port Metro Vancouver (PMV), manages federal Crown lands under the purview of the Canada Marine Act, which imparts stewardship responsibilities. PMV accordingly conducts environmental reviews of works and activities undertaken on these lands to ensure that the works and activities do not result in significant adverse environmental effects. This Environmental Review Decision Statement summarizes PMV’s environmental review of the Equipment Replacement and Upgrade being proposed by Westshore Terminals Limited Partnership (Westshore or the Proponent), also referred to as the Westshore Project or the Project.

The environmental review was carried out to address PMV’s stewardship responsibilities, and to meet the requirements of the Canadian Environmental Assessment Act 2012 (CEAA 2012). While the proposed Project is not a CEAA 2012 “designated project” and a legislated environmental assessment is not required, PMV authorization is required for the Project to proceed and in such circumstances Section 67 of the CEAA 2012 requires federal authorities to assure themselves that projects will not result in significant adverse environmental effects.

The environmental review considered the Project Permit Application, along with supporting studies, assessments and consultations carried out or commissioned by Westshore, as well as other information provided by Westshore. In addition, this environmental review considered other information available to PMV and other consultations carried out by PMV. A full list of information sources considered is provided in the following pages of this statement.

This Environmental Review Decision Statement with attached conditions is not a project authorization. It is intended to be an attachment to and condition of the Project Permit.

Project Identification and Scope

Westshore has been operating a coal export terminal at Roberts Bank in Delta since 1970. After 30 to 40 years of operation, much of the terminal infrastructure is nearing the end of its useful life. Westshore is proposing to replace certain aging equipment to sustain existing maximum coal throughput projections, rated at 33 Million Metric Tonnes (MMT) per year. The increased equipment reliability and upgrades of the proposed Project result in an increase in annual throughput capacity by 3 MMT, to bring the terminal’s theoretical annual capacity to 36 MMT. Project key components and details include the following:

- Construction of a new consolidated office and shops complex at the geographic north corner of the Westshore site, a location removed from the existing office, shops and warehouse complex (requiring soil compaction, foundations, paving, vehicle wash bay/car wash facility, new services and a new fueling facility);
- Relocation of a water reservoir currently located at the site of the new office/shops complex;
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EQUIPMENT REPLACEMENT AND UPGRADE

- Removal and demolition of the existing office, shops and warehouse complex, including the existing fueling station;
- Expansion of the existing Row D coal stockpile into the area formerly occupied by the removed complex;
- Removal of the existing ship loader, either by ship or barge directly from the berth or by road or barge in pieces;
- Installation of a new Berth One ship loader delivered by ship or barge directly onto the berth structure (this, and the removal of the old loader if by vessel will require the temporary extension of the loader rails but no other berth modifications);
- Removal of the three oldest stacker reclaimers in pieces by road;
- Bringing three new stacker reclaimers to the site in pre-assembled components by barge, to shore either behind Berth Two or Berth One (the new equipment will operate on the existing rails and will not require ground modifications);
- Demolition of two existing yard conveyors down to grade and removal of some foundations;
- Installation of two new yard conveyors (requiring new foundations);
- Demolition of the existing wastewater treatment plant and construction of a new one; and
- Relocation of the existing wastewater outfall (a vertical discharge line) from its existing location on the Berth One trestle to a new location on the trestle in deeper water.

The scope of the Project consists of the construction components described above. It does not include operation components other than any changes that may affect air emissions or other environmental factors resulting from changes in efficiency or capacity associated with the infrastructure upgrades.

This environmental review includes the works identified above. It specifically does not include the mining and/or processing of the coal at the mine site, the transportation of the coal by rail to the terminal, the transportation of the coal by vessel outside of PMV’s navigational jurisdiction, nor the end use of the coal.

Environmental Review Documentation and Information

The following documents and information were reviewed and considered in the environmental review of the proposed Project:

- Port Metro Vancouver Project Review Application prepared by Greg Andrew, Chief Engineer of Westshore Terminals Limited Partnership, dated July 25, 2013 with an attached letter describing the proposed Project and attached drawings.
- SNC-Lavalin Inc. Environment and Water (SNC-Lavalin), *Environmental Impact Assessment for the Terminal Infrastructure Reinvestment Project, November 13, 2013*, (the EIA), including the following in appendices and attachments:

o Management, contingency and response plans;

o A review of the short and long term health effects of fugitive dust and diesel emissions;

o Westshore’s B.C. Ministry of Environment Effluent Discharge Permit PE-6819;

o Associated Engineering, October 18, 2013, Memo report to Greg Andrew (Westshore) from Sahar Kosari, Christian Brumpton and Hugh Hamilton (Associated) re: Westshore Terminals Wastewater Treatment Plant Wastewater Treatment Plant Upgrade; and

o Engineering drawings describing the proposed Project.

• An October 18, 2013 Westshore document entitled Permit Application Questions (Email 2013-10-02 to Westshore).

• Levelton Consultants Ltd., October 11, 2013, Memo report to Greg Andrew and David Crook (Westshore) and submitted by Tyler Abel and Braden Bartnik (Levelton) re: Mobile Air Monitoring Unit Description.

• CTA Design Group, October 9, 2013, Letter to Greg Andrew (Westshore) from Ciaran J. Deery (CTA) re: (P2S5 Blg) Information required for Project Permit Application 1 Roberts Bank, Delta, B.C.

• Omni Engineering Inc., October 17, 2013, Technical Memo to Greg Andrew (Westshore) from Chris Versteeg (Omni), re: P2S5 New Administration Complex Project Permit Application – Site Configuration Changes, including drawings.

• WorleyParsons Canada, September 24, 2013, Limited Phase 1 Environmental Site Assessment (ESA) Terminal Infrastructure Reinvestment Project. Prepared for Westshore.

• A Westshore document describing the terminal’s high wind shutdown procedures, issued in November, 2007.

• A Westshore “environmental call” log for the period October, 2012 to October, 2013 describing telephone calls received and actions taken.


• A December 8, 2013 letter from Tom McCarthy (CAO, Tsawwassen First Nation) to Judy Kitts (PMV) regarding the proposed Project.

• A December 16, 2013 email from Kevin Haberl (BC Ministry of Forests, Lands, and Natural Resource Operations (FLNRO)) to Carrie Brown (PMV) indicating that FLNRO
reviewed the Project information and would not be providing additional comments on the Environmental Impact Assessment (EIA).

- A December 17, 2013 email from Nicole Cote (Health Canada) to Darrell Desjardin and Carrie Brown (PMV) indicating that Health Canada will not be providing comments on the EIA.

- A December 17, 2013 letter from Adam Munnings (Callison & Hanna Barristers & Solicitors) to Judy Kitts (PMV) regarding the proposed Project.


- Westshore Terminals, December 30, 2013, *Terminal Infrastructure Reinvestment Project Input Consideration Memorandum* containing Westshore’s responses to engagement feedback.

- A January 7, 2014 letter from George V. Harvie (CAO, Corporation of Delta) to Tim Blair (PMV) re: “Westshore Terminals Infrastructure Reinvestment Project” and with an attached December 19, 2013 Delta staff report concerning the Project.


- A January 14, 2014 letter from Greg Andrew (Westshore) to Tim Blair (PMV), no subject line, with attachments from Corporation of Delta and Tsawwassen First Nation.


- A January 16, 2014 letter from Paul Van Buynder (Chief Medical Health Officer of Fraser Health) to Carrie Brown (PMV) re: “Permit Application by Westshore Terminals Limited Partnership for Equipment Replacement and Upgrades (P2S5) – PP2013-144”.

- A January 21, 2014 letter from Greg Andrew (Westshore) to Tim Blair (PMV) re: “Terminal Infrastructure Reinvestment Project, Response to Fraser Health Letter”.

### Federal Environmental Review Requirements

PMV is a designated Canada Port Authority under the *Canada Marine Act* and is a federal authority under the *Canadian Environmental Assessment Act 2012* (CEAA 2012). PMV has responsibility for managing and administering federal property including over 16,000 hectares of water, nearly 1,000 hectares of land, and assets along more than 600 kilometres of shoreline.

As a federal authority, under Section 67 of CEAA 2012, PMV must assure itself that projects it authorizes that are not CEAA 2012 designated projects do not result in significant adverse environmental effects, in a process herein referred to as federal environmental review. The proposed Project is not a CEAA 2012 designated project. However, since the Project is on federal land administered by PMV and PMV must authorize the Project before it can proceed, the Project must receive a federal environmental review by PMV.
The environmental review initiated by PMV 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;
- The significance of the environmental effects referred to above;
- Comments from First Nations;
- Comments from the public; and
- Technically and economically feasible measures that would mitigate any significant adverse environmental effects of the proposed Project.

Environmental effects or changes that the proposed Project may cause on the environment also include consideration of the effects on health and socio-economic conditions and First Nations concerns.

PMV requested that Westshore prepare an Environmental Impact Assessment (EIA), including the effects of the project on health. The EIA evaluates the potential environmental effects of the proposed Project. PMV has reviewed and considered the EIA in the environmental review.

**Federal, Provincal and Municipal Agency Consultation**

For this Project, PMV is the sole decision maker and no other authority (federal, provincial or municipal) was required to conduct an environmental review. However, PMV provided Project information, including the EIA, to appropriate representatives of Transport Canada, Fisheries and Oceans Canada, Environment Canada, Health Canada, the B.C. Ministry of Forests, Lands and Natural Resource Operations (FLNRO), Metro Vancouver and Fraser Health.

PMV received responses from Health Canada and FLNRO, both of which declined to provide Project-specific comments. Fraser Health provided comments on the EIA and specifically on the assessment of human health effects. Fraser Health identified concerns that the EIA focuses on the site at Roberts Bank, and ambient air quality in the area surrounding Westshore (such as the BC Ferries Terminal and the community of Tsawwassen), and noted that the scope of the EIA should include the transportation of coal through the Fraser Health region to Westshore or after the coal is loaded to the bulk vessel carriers.

PMV did not receive responses or comments from Transport Canada, Fisheries and Oceans Canada, Environment Canada or Metro Vancouver.

In addition, Westshore contacted provincial and municipal elected representatives as well as staff at the Corporation of Delta. Delta Council advised PMV that it supported the Project at its January 6, 2014 meeting, but indicated concerns regarding the transportation of coal through the community and related health and environmental concerns, and requested that Westshore and Metro Vancouver provide funding to the Corporation of Delta to undertake an independent, comprehensive one-year study of dust emissions from coal cars.
The proposed Project consists of the in-kind (albeit upgraded) replacement of existing equipment and infrastructure. Except for the ship loader and wastewater outfall, the Project is confined entirely to the upland of the Roberts Bank port facility. The only in-water work that may be required for the Project is the relocation of the existing wastewater outfall on the Berth One pier to a point further south on the pier, in deeper water. Agency and municipal interest appears to be limited to the effects of any changes in air quality and noise environments resulting from the Project, and issues associated with the upgraded wastewater treatment plant and relocated outfall. These are all addressed in the review.

Public Consultation and Communication

Westshore provided a number of opportunities for receiving public feedback, including news releases, notices in local news media, attendance at local events, providing a dozen "open house" terminal tours and conducting a Project-related formal open house in Delta.

Westshore received a total of thirty-three written comments from the public following the open house, thirty-one were positive, one was neutral and one was negative. The negative comment reflected a concern related to fugitive dust emissions. Most verbal comments received at the open house were in favour of the project, however, there were several negative comments relating to rail traffic and the pace of development in Delta.

Westshore completed an Engagement Summary Report and a Consideration Memo which summarizes the various consultation activities conducted for the Project.

PMV has not received any information suggesting that this is not representative of the general response to Westshore’s communication efforts. PMV did not receive any formal comments directly from the public regarding this Project.

First Nations Consultation

The following First Nations were consulted on the Project:

- Tsawwassen First Nation
- Katzie First Nation
- Musqueam Indian Band
- Semiahmoo First Nation
- Tsleil-Waututh First Nation
- Halalt First Nation
- Hwlitsum First Nation
- Penelakut Tribe
- Cowichan Tribes
- Lake Cowichan First Nation
- Stz’uminus First Nation
- Lyackson First Nation

First Nations were provided with project information and invited to comment. PMV received comments from two First Nations.
Concerns expressed by First Nations included air quality, lighting, noise, marine and rail traffic, and cumulative impacts.

PMV has included conditions related to air quality, lighting and noise in its Schedule of Environmental Conditions (Attachment 1). With respect to marine and vessel traffic and cumulative effects, the Project is not expected to cause significant residual adverse effects, taking into consideration the implementation of the mitigation measures described in the Proponent’s documents and compliance with the attached conditions.

**Scope of the Environmental Review**

The scope of the environmental review included:

- Relevant background information as provided by the Proponent and as otherwise available to PMV;
- The potential for residual adverse environmental effects having regard to mitigation measures that will be incorporated into the Project; and
- The significance of any residual adverse environmental effects.

The following biophysical components were considered in the environmental review:

- Fish;
- Marine mammals;
- Storm and wastewater quality; and
- Air emissions, including exhaust and fugitive dust.

The following socio-economic components were included in the environmental review:

- Social effects including traffic, lighting, noise and employment;
- Health effects; and
- First Nations considerations.

The following factors were considered in completing the environmental review:

- The purpose of the Project;
- Environmental effects of accidents and malfunctions; and
- Technically and economically feasible measures to mitigate any adverse environmental effects.

**Spatial and Temporal Boundaries**

Potential environmental effects specific to the proposed Project were reviewed based on two main Project phases:

- The construction phase requiring approximately four years after the Project is authorized by PMV; and
- The operation phase.
Decommissioning was not addressed in the environmental review as the operations phase of the proposed Project is indicated to be indefinite. Any future proposal to decommission the Project will be subjected to environmental review by PMV at the appropriate time, as required under existing PMV policy for any significant physical work carried out on the lands it administers.

Spatial and temporal boundaries for the effects review were specific to the proposed Project under review. Temporal boundaries typically included time prior to commencement of construction to determine reference or baseline conditions.

**Environmental Effects**

The following is a summary of the key conclusions of the environmental review for each of the biophysical and socio-economic components considered. Specific mitigation requirements identified for each component are described in the Proponent’s “*Environmental Impact Assessment for the Terminal Infrastructure Reinvestment Project*”. PMV has also prepared a Schedule of Environmental Conditions and has attached it to this Decision Statement (Attachment 1). The conditions in the Schedule are mandatory conditions of PMV’s authorization of the Project.

**Biophysical Components**

**Fish**

Berth One and its pier, which are the sites for the ship loader replacement and the relocation of the wastewater outfall, extend into Georgia Strait (an arm of the Salish Sea). The Strait contains species of importance to commercial, recreational and aboriginal fisheries, as well as habitat important to them. In-water work associated with the Project consists solely of the outfall relocation. Project construction is not expected to cause significant residual adverse effects on fish, taking into consideration the implementation of the mitigation measures described in the Proponent’s documents and compliance with the conditions in Attachment 1.

**Marine mammals**

The waters adjacent to the Westshore Terminal are frequented by numerous species of marine mammals, including some with special status. In addition, the terminal is situated within an area that is designated critical habitat for southern resident killer whales. The environmental review considered the potential effects of changes in the in-water noise environment and changes in the risk of vessel strikes. Project construction and operation are not expected to result in significant changes in the noise environment and vessel strike risks, taking into consideration the implementation of the mitigation measures described in the Proponent’s documents and compliance with the conditions in Attachment 1.

**Storm and wastewater quality**

Westshore currently discharges treated sanitary wastewater and treated excess storm water (both under a Ministry of Environment discharge permit) to local waters of Georgia Strait.
The infrastructure upgrade Project will not result in increases in volume of these discharges, and will include upgrades to the sanitary system. Construction and operation are not expected to cause significant residual adverse effects on the quality of these discharges, taking into consideration the implementation of the mitigation measures described in the Proponent’s documents and compliance with the conditions in Attachment 1.

**Air quality, including fugitive dust emissions**
For emissions of criteria air contaminants (CACs) which contribute to air quality, and greenhouse gases (GHGs) which contribute to climate change, Westshore’s environmental impact assessment for the local study area (LSA) concludes:

- On an intensity (per tonne throughput) basis, the Project results in an improvement in all emission rates (-2 to -25 %) with the exception of ammonia (+1%).
- On an absolute (total) basis, the Project results in an improvement in dust emissions (-19%) and a +2 to +10% increase in exhaust emissions. However, exhaust emissions of key CACs including nitrogen oxides, sulphur oxides and particulate matter are expected to be lower with the Project than in 2012, in large part due to regulated improvements to fuel quality and engine emission limits.

These results are consistent with PMV’s commitment to continuous improvement in terms of emissions that contribute to air quality and climate change, on an intensity and to some extent absolute basis. It is also consistent with the direction of the airshed emission reduction goals identified in the Northwest Ports Clean Air Strategy 2013 Update, which include intensity based reductions in diesel particulate matter and GHG emissions. While fugitive dust emissions from coal trains were not included in the regional study area (RSA) assessment, they, along with other emissions in the broader RSA were considered by PMV.

Emissions from both the LSA and RSA (including fugitive dust from coal trains) are addressed in monitoring and mitigation measures described in the Proponent’s EIA as well as in the conditions in Attachment 1.

Westshore currently has an on-going air quality monitoring program that includes:

- Dust and meteorological monitoring and continual use of water spray system as required by Metro Vancouver air permit
- Additional monitoring at the BC Ferries Tsawwassen Ferry Terminal and the marina in Point Roberts
- To inform shift supervisor about operations needed for expected weather conditions:
  - Subscription to Environment Canada Weather Alert system providing notification of wind warnings
Subscription to UBC Weather Alert system providing on-line graphical projection of forecast wind speed and direction of 24 hours

- Maintenance of an Environmental Call Log tracking issues identified, action taken and result
- Complaint response including sample collection and analysis for coal content
- Investment in two Mobile Air Monitoring Units (MAMU) to analyze air quality and dust throughout Delta and Point Roberts in response to specific concerns and to collect general air quality information; and
- Operation of a remote surveillance station at the 80th Street overpass in Delta to visually monitor dust from rail cars.

Westshore has also indicated that it will participate in the Corporation of Delta’s proposed study of the potential health and environmental impacts of coal transport in the community.

Construction and operation are not expected to cause significant residual adverse effects on air quality, taking into consideration the implementation of the mitigation measures described above and in the Proponent’s documents and compliance with the conditions in the Schedule of Environmental Conditions in Attachment 1.

In response to Fraser Health’s concerns regarding ground level ozone, the Regional Ground Level Ozone Strategy Steering Committee, that includes Metro Vancouver, PMV and other agencies, are working to better understand the causes of increasing ozone levels in the region and to make recommendations on the best way to manage them going forward.

Further, PMV will continue to assess port air emissions associated with port operations including Westshore, and will continue to work with stakeholders to implement programs to further reduce contributions to air quality and climate change. With respect to the proposed Project, conditions in the Schedule of Environmental Conditions in Attachment 1 provide for the identification and incorporation of ongoing and/or additional requirements as they relate to air emissions in support of this goal.

The end use of the coal is a GHG generator. The governments of British Columbia and Canada have implemented provincial and national resource extraction policies, which include coal mining and trade. The purpose of the Canada Marine Act includes the creation of marine infrastructure (including Canada Port Authorities) that supports the achievement of national, regional and local social and economic objectives and promotes and safeguards Canada’s competitiveness and trade objectives, including the trade of coal. PMV does not make international trade policy decisions defining what can or cannot be exported, however, as a Canada Port Authority, PMV assesses whether the goods and commodities can be moved safely with no significant impact to the environment and surrounding community.
Westshore receives product by rail using three railways, from mines located throughout western North America. Coal is treated with binding agents when loaded to rail cars at the producing mines in order to reduce fugitive dust while the cars are in transit. CP Rail takes the further best practice measure of re-treating the cars in central BC at the mid-point of the trip to Westshore. BNSF Rail has committed to implementing the same best practice in 2014, at a new re-spray station to be located in the United States. PMV encourages Westshore to enter into good faith negotiations with all of its railway providers to adopt this and other best practices and enter into commercially acceptable operating agreements with respect to operating issues, including dust control.

**Socio-Economic Components**

**Traffic**

Road and rail traffic was addressed in the Westshore EIA. Slight but not significant increases in road traffic are expected during the construction phase of the Project. Road traffic volume is not expected to change from current levels during the operational phase, and significant adverse effects are not likely. Capacity increases associated with the Project could result in a moderate increase in the number of coal trains, from the current average of 6.24 trains per day to about 6.81 trains per day. With the implementation of the Roberts Bank Rail Corridor Improvement Project the moderate increase in rail traffic is not expected to be problematic. Construction and operation are thus not expected to cause significant residual adverse social effects associated with traffic, taking into consideration the implementation of the mitigation measures described in the Proponent’s documents and compliance with the conditions in Attachment 1.

**Lighting**

There has been no Project-related public feedback that Westshore terminal lighting is problematic, but PMV is aware that public opinion associated with lights at the Roberts Bank port facility is generally not favourable. The TFN also specifically raised it as a point of concern. The Project will include lighting upgrades that will reduce off-terminal lighting effects due to conversion to more efficient and focussed bulb technology. Construction and operation are thus not expected to cause significant residual adverse social effects associated with lighting, taking into consideration the implementation of the mitigation measures described in the Proponent’s documents and compliance with the attached conditions.

**Noise**

Operations-related noise may stem from rail and vessel operations as well as from coal handling and loading equipment on the terminal. Westshore has received very few noise-related complaints over the last two decades, and none that were ultimately attributable to Westshore operations. A detailed environmental noise assessment was conducted in 2004 that indicated that noise from rail and vessel operations, while unavoidably associated with port operations, was at acceptable Health Canada levels. At Roberts Bank, the majority of the noise complaints originate from the ship board generators on the container vessels at berth at Deltaport. PMV has ongoing, proactive initiatives that
are mitigating this, including initiatives specific to the Roberts Bank port facility rail corridor (e.g., overpasses that result in train whistle reductions).

Project-related upgrades to coal handling and loading equipment will result in significant noise reductions from those sources. Construction and operation are thus not expected to cause significant residual adverse social effects associated with noise, taking into consideration the implementation of the mitigation measures described in the Proponent’s documents and compliance with the attached conditions.

**Employment**

The Project-related upgrades are not expected to result in terminal workforce reductions, and construction will result in employment gains during the expected four year construction period. No adverse effects related to employment are expected.

**Health effects**

The Westshore Environmental Impact Assessment concluded that the proposed Project will not result in unacceptable health risks associated with Project-related exposures to fugitive dust (including coal dust) and combustion emissions (including diesel) from the Westshore facility based on air quality monitoring and modelling. PMV has conducted similar assessment work of Westshore’s existing operation that confirms this conclusion.

In 2005, PMV retained independent experts to conduct a detailed Human Health Risk Assessment (HHRA) and Wildlife Health Risk Assessment (WHRA) (RWDI, 2005), of the then existing and proposed Third Berth expansion of the Deltaport Container Terminal (the “DP3 Project”). These risk assessments included the operation of Westshore and were based on reasonable growth projections.

The primary objective of the HHRA was to evaluate the likelihood of occurrence of adverse human health effects in relation to potential exposures to chemicals in light of what is known regarding the toxicity of those chemicals. The HHRA followed a conventional study approach, in accordance with formal and informal procedures recommended by regulatory agencies including Health Canada, Environment Canada, the provincial Ministry of Environment, the Canadian Council of Ministers of the Environment, United States Environmental Protection Agency and the World Health Organization.

Potential human and wildlife health impacts as a result of the estimated air quality changes were characterized using a conventional risk assessment approach. A high degree of conservatism was utilized to ensure that health risks would not be underestimated. The work relied on the results of the air dispersion modeling in which groundlevel air concentrations of the emitted chemical constituents were predicted based on a conservative modeling method. The predicted air concentrations were expressed as a function of different averaging times (i.e., 10-minute, 1-hour, 8-hour, 24-hour, and annual averages) to allow for the estimation of acute and chronic health risks. Special consideration was given to individuals who might be particularly vulnerable to air emissions. Wildlife health impacts
were assessed by determining the likelihood of population effects occurring in nearby ecological receptors as a result of the DP3 Project’s air emissions. The HHRA was augmented by Health Canada’s Health Determinants approach. This multi-factorial approach considers other factors that can influence health such as residency, the state of the environment, genetics, income and education level, and relationships. As well, the HHRA was extended to include examination of potential daily mortality and morbidity related to exposures to PM10 and PM2.5 from all sources.

Potential human health risks were assessed in relation to air emissions from the DP3 Project and other emission sources in the study area, including Westshore operations and BC Ferries. The overall conclusions from the HHRA and the WHRA were that the health risks are negligible at selected receptor locations from acute or chronic inhalation exposures, or from ingestion of food grown or raised within the local study area. These findings applied to all chemicals, all receptor locations, and all exposure scenarios. The overall health risks as they relate to PM were characterized as being "low", as no guideline exceedances were predicted for PM.

The human and wildlife health risk assessments conducted in 2005 incorporated reasonable growth projections, including Westshore’s current capacity of 33 MMT. The information from the 2005 HHRA combined with the on-going air quality monitoring and the air quality modeling of the proposed Project indicates that the proposed Project does not present unacceptable risks to health. PMV has taken into consideration the on-going air quality monitoring, the identified mitigations and has included conditions intended to address dust and combustion-related emissions in the attached conditions.

**Accidents and Malfunctions**

PMV’s environmental review considered the potential environmental and personnel health and safety effects associated with accidents or malfunctions as a result of the Project during construction and operations. The range of considered accidents and malfunctions included spills and leaks, road and rail movement incidents and emergency response incidents. All potential effects were assessed as insignificant or avoidable with mitigation. Permanent residual effects are not expected.

**Effects of the Environment on the Project**

The environmental review considered potential effects of the environment on the Project during construction and operations, including the potential effects of seismic events, tidal conditions and severe weather. All potential effects were assessed as insignificant or avoidable with mitigation. Permanent residual effects are not expected.
Environmental Review Decision

In completing this federal environmental review, PMV has reviewed and taken into account relevant information available on the proposed Project, has considered the information and proposed mitigations provided by Westshore and other information as listed elsewhere in this document, and concludes that with the implementation of proposed mitigation measures and conditions (as described in the Schedule of Environmental Conditions in Attachment 1), the Project is not likely to cause significant adverse environmental effects.

Port Metro Vancouver
January 31, 2014
ATTACHMENT 1: Schedule of Environmental Conditions
Project Description


Information Sources


Environmental Conditions

It is the opinion of the Vancouver Fraser Port Authority (VFPA) that potential adverse environmental effects associated with the above referenced Project can be mitigated through the application of the specific mitigations designed into the Project as identified in the November 13, 2013 document “Environmental Impact Assessment for the Terminal Infrastructure Reinvestment Project” prepared for Westshore Terminals Limited Partnership (Westshore or the Proponent) by SNC-Lavalin Inc. Environment and Water, including its Table 8-1 and its appendices and attachments, and through compliance with the conditions outlined below. The conditions listed in this Schedule of Environmental Conditions are mandatory conditions of VFPA authorization.

The below conditions are based solely upon VFPA's review of the Project and in no way limits the authority of, or constitutes any form of permit, authorization or approval by, any other governmental authority having jurisdiction. The Proponent is solely responsible for obtaining any and all required permits, authorizations and approvals from any other governmental authority having jurisdiction.

General Conditions

1. The Proponent shall ensure that all works are as described in the documents referenced in the Environmental Review Decision Statement, dated January 31, 2014. This Schedule of Environmental Conditions does not apply to works other than those described.

2. The Proponent acknowledges that all plans and specifications relating to this Project have been duly prepared and reviewed by appropriate professionals working on its behalf. The Proponent and its agent(s) and/or contractor(s), further acknowledge that they are solely responsible for all design, safety and workmanship aspects of all of the works associated with this Project.

3. The Proponent shall at all times and in all respects comply with and abide by all applicable federal, provincial and municipal laws, statutes, by-laws, regulations, orders and policies from time to time in force and effect including, without limiting the generality of the foregoing, all rules and directions established by VFPA from time to time (collectively, “Applicable Law”). Any reference below to a specific law, statute, by-law, regulation, order or policy is for clarity only and in no way limits the generality of the foregoing.

4. In addition to the Conditions listed in this Schedule of Environmental Conditions (the Schedule), work shall be carried out in a manner consistent with the supporting documents provided by the Proponent, and in compliance with appropriate industry environmental codes of practice. Where those
documents and codes of practice are in conflict with the Conditions listed in this Schedule, the Conditions in this Schedule shall have priority. VFPA Environmental Programs should be consulted for clarification when and if required.

5. The construction works on Berth One and its trestle and any transfers of equipment, components and materials between vessels or barges and the shore or berth structures (water/shore transfers) shall be monitored by an appropriately qualified environmental professional. The monitor shall be empowered in writing to direct works to ensure compliance with this Schedule. Monitoring events shall occur when the environmental monitor deems it appropriate to provide assurance of compliance, but in no case less than weekly. Notwithstanding the foregoing, environmental monitoring shall be full time when works are under way that have the potential to have adverse effects on fish or fish habitat, such as during water/shore transfers.

6. The environmental monitor shall provide monitoring reports to the VFPA on a weekly basis or more frequently if circumstances warrant. In addition, a summary report for the entire environmental monitoring period shall be forwarded to VFPA within six weeks of the conclusion of the requirement for monitoring. VFPA reserves the right to rule on the adequacy of the monitoring and the content of the reports and to require revisions to address any inadequacies.

7. The Proponent shall provide copies of the monitoring reports to other parties when and as directed by the VFPA Environmental Programs Department.

8. VFPA reserves the right to rescind or revise the Conditions listed in this Schedule of Environmental Conditions at any time that new information warranting this action becomes known to VFPA. The Proponent shall cooperate fully with VFPA in respect of any review by VFPA of the Proponent’s compliance with these Conditions including, without limitation, providing any information or documentation required by VFPA.

9. The Proponent shall provide a copy of this Schedule to all employees, agents, contractors, licensees and invitees prior to commencing any physical activities. The Proponent shall be solely responsible for ensuring that all such employees, agents, contractors, licensees and invitees comply with these conditions.

10. The Proponent shall make available upon request by any regulatory authority (i.e. a Fishery Officer) a copy of this Schedule.

**Conditions that relate to Fish and Fish Habitat**

11. The Proponent shall not, directly or indirectly: (i) deposit or permit the deposit of a deleterious substance of any type in water frequented by fish in a manner contrary to Section 36(3) of the *Fisheries Act*; or (ii) adversely affect fish or fish habitat in a manner contrary to Section 35(1) of the *Fisheries Act*.

12. Barges or other vessels used during construction shall not be permitted to ground on the foreshore or sea bed or otherwise disturb the foreshore or sea bed (e.g., disturbance as a result of vessel propeller wash). Appropriate use of spuds to secure barges is acceptable. Note that fish habitat

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**Review History**

Draft January 14, 2014 JXB
Initial Completion January 24, 2014 KAK
Final Completion January 31, 2014 KAK
compensation structures (rock reefs) exist in the vicinity of at least one of the possible barge transfer sites identified in the supporting documents provided by the Proponent. Barges and other vessels shall under no circumstances be permitted to contact or otherwise disturb those structures.

13. The Proponent shall provide a barge transfer plan, detailing how the Proponent will comply with the foregoing Condition, to VFPA’s Environmental Programs Department for review and acceptance prior to the physical initiation of any water/shore transfers not occurring at Berth One. The Proponent’s environmental monitor (see general conditions) and its barge operator shall participate in the preparation of the plan.

14. All applicable legislation, guidelines, and best management practices shall be followed with respect to the application of wood preservatives and any other paints or coatings. Where practicable timber preservatives are to be applied upland in the dry prior to installation to allow the preservative to completely absorb and prevent leaching into the aquatic environment. A minimum of 45 days or compliance with wood treatment industry Best Management Practices (BMPs) is generally required to satisfy this criterion. This Condition applies to initial construction and to subsequent maintenance. The Proponent may wish to refer to the Fisheries and Oceans Canada Guidelines to Protect Fish and Fish Habitat from Treated Wood Used in Aquatic Environments in the Pacific Region (Hutton, K.E. and S.C. Samis. 2000. Can. Tech. Rep. Fish. Aquat. Sci. 2314: vi + 34 p) for information concerning the BMPs.

15. The Proponent shall contain in the immediate working area all debris and waste materials resulting from the Project and remove such debris and waste material as soon as possible. The Proponent shall remove any submerged debris and waste material by means of a diver or other non-intrusive method. The Proponent shall not use a grappling hook or clamshell bucket to remove submerged debris or waste material unless such use is reviewed and approved by VFPA’s Environmental Programs Department.

16. The Fisheries and Oceans Canada, Conservation and Protection Field Supervisor for Lower Mainland/Squamish in Steveston, British Columbia is to be advised at least two (2) days in advance of the start of the in-water physical works (telephone: 604-664-9250; fax: 604-664-9255). VFPA Environmental Programs and Harbour Master shall be copied on this notification (EnvironmentalPrograms@portmetrovancouver.com and Harbour_Master@portmetrovancouver.com). The physical works may not be initiated before the expiry of the notice period.

**Conditions that relate to the Use of Concrete and Cementitious Materials**

17. Project works involving the use of concrete, cement, mortars and other Portland cement or lime-containing construction materials shall be conducted so as to ensure that sediments, debris, concrete (cured or uncured), and concrete fines are not deposited into the 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. shall not be permitted to enter the aquatic environment. VFPA’s Environmental Programs Department shall be consulted in advance for
further review and authorization where there is no alternative to permitting the release of such water. Containment facilities shall be provided at the site for the wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment as required.

**Conditions that relate to Spill Prevention and Contingency**

18. Prior to commencing any physical activities, the Proponent shall establish a spill prevention, containment and clean-up plan for hydrocarbon products (including fuel, oil and hydraulic fluid) and any other deleterious substances using standards, practices, methods and procedures to a good commercial standard, conforming to Applicable Law and using that degree of skill and care, diligence, prudence and foresight which would be reasonably and ordinarily expected from a qualified, skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances. The Proponent shall ensure that appropriate spill containment and clean-up supplies are available on site at all times and that all personnel working on the Project are familiar with the spill prevention, containment and clean-up plan. Incident response shall be prompt and appropriate in accordance with the response plans and the circumstances.

19. Working equipment shall be inspected regularly to ensure that it is in good mechanical condition and free from visible evidence of fuel, oil, coolant, solvent and hydraulic leaks. Equipment that is found to be other than in good condition shall be removed from the job site immediately.

20. Construction equipment shall be equipped with easily accessible spill kits, and operators shall know how and when to use them.

21. Fuelling or maintenance shall not be carried out within 30 metres of the marine foreshore, or in areas where there is potential for run-off and spilled substances to reach surface water bodies. Fuel and other hydrocarbon inventories shall not be stored in such areas, temporarily or otherwise.

22. Small portable equipment such as generators or air compressors shall be used in accordance with best environmental practice, including the use of drip trays when appropriate.

**Conditions that relate to Surface Water Quality**

23. 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.

24. Prior to the initiation of discharge from the new treatment facility, additional information on the proposed changes to the existing wastewater treatment plant effluent discharge shall be submitted to VFPA for review and shall be to the satisfaction of VFPA.

25. If excavation dewatering is or is expected to be required, VFPA’s Environmental Programs Department shall be advised regarding proposed methods for the mitigation of potential adverse effects. Prior to the initiation of excavation, a dewatering plan shall be submitted to VFPA for review and shall be to the satisfaction of VFPA.
Conditions that relate to Soil and Groundwater Quality

26. In advance of the commencement of construction, a soil and groundwater management plan that addresses contamination and fugitive dust issues shall be developed and submitted to VFPA’s Environmental Programs Department for review and shall be to the satisfaction of VFPA.

27. 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. Duration of stockpiling on site shall not exceed 60 days unless authorized by VFPA’s Environmental Programs Department. Stockpiles shall be covered to prevent dispersal by rain, surface flowing storm water or wind.

28. Materials brought onto the property for use as backfill or for site preparation must be from sources demonstrated to be clean and free of environmental contamination.

Conditions that relate to Archaeological Resources

29. In the event that archaeological resources are encountered, excavations shall cease immediately and the BC Archaeology Branch and an individual with appropriate archaeological qualifications shall be contacted.

Conditions that relate to Air Quality

30. During the construction phase of the Project, the Proponent shall make reasonable efforts to ensure that heavy duty diesel powered road licensed vehicles are model year 2007 or newer.

31. During the construction phase of the Project, the Proponent shall make reasonable efforts to ensure that diesel powered non-road or off-road equipment is Tier 3 or better.

32. The Proponent shall prepare a consolidated dust management plan to facilitate the adaptive management of dust-related air quality issues associated with the entire facility’s operation including the Project. The plan must be submitted within three months of the issuance of a Project Permit in relation to this Project to VFPA’s Environmental Programs Department for review and acceptance. The plan content shall be determined in consultation with and as required by VFPA’s Environmental Programs Department, and shall include but not be limited to objectives/outcomes, terminal description, identification of activities likely to generate dust, identification of nearby off-site areas that may be impacted and their sensitivity (e.g. Tsawwassen First Nation, Delta), implementation details such as responsibilities, operational controls, training and maintenance activities, monitoring (e.g. meteorology, dust and particulate matter, issues, responses, effectiveness), reporting and other methods that will drive continuous improvement.

33. VFPA reserves the right to impose additional conditions in the future in the event that it becomes apparent to VFPA that this is necessary with regard to managing emissions to air associated with the facility.
34. Dust and air emissions associated with Project construction and operation shall be managed to avoid adverse health and safety effects on and off site, as well as to prevent adverse effects on regional and local air quality. In this regard, dust control measures shall be implemented as required, including but not limited to the following:

- Soil and coal stockpiles shall be covered or shielded from wind as necessary or stabilized with water or other dust control agents that have been reviewed and accepted by VFPA Environmental Programs;
- Coal residues shall be cleaned from rail cars after the coal has been delivered to the transfer facility, or remnant coal in empty rail cars shall be appropriately stabilized to mitigate fugitive dust;
- The free drop height into receiving vessel cargo holds shall be limited by use of an adjustable chute apparatus and best efforts shall be made to mitigate fugitive dust generating during coal loading operations;
- Dust generating activities shall not be carried out during times when wind velocities exceed thresholds known to be problematic;
- There shall be no visible dust or vehicle track-out beyond the lease boundary;
- Wheel washing facilities shall be established where appropriate;
- Vehicles used to transport bulk fine materials should be covered;
- Paved sections subject to dust accumulations should be cleaned/wetted on a regular basis; and
- Unpaved sections should be wetted on a regular basis.

35. Vehicle and equipment idling shall be limited to the greatest practical and safe extent.

**Conditions that relate to Lighting**

36. The Proponent shall take all appropriate steps to prevent adverse offsite lighting impacts on people, wildlife, aquatic life, and marine traffic, including, without limitation using the best available technology to mitigate light spillage and document the implementation and effectiveness of these practices to the satisfaction of VFPA. The Proponent shall be responsive to light concerns raised by VFPA.
Conditions that relate to Noise

37. Appropriate steps shall be taken to prevent adverse noise impacts on people and wildlife. In the event that it becomes apparent to VFPA that additional measures are necessary with regard to managing noise, VFPA may require that the Proponent prepare and submit a noise management plan, to the satisfaction of VFPA. The Proponent shall be responsive to noise-related issues identified by the public, regulators and VFPA.

38. The Proponent shall prepare and submit a noise monitoring plan, to the satisfaction of VFPA, at least one month in advance of the commencement of construction. The plan shall include the preparation and submission of a baseline noise monitoring report to VFPA’s Environmental Programs Department within one month after the initiation of the construction phase of the Project. In addition, a post-construction noise monitoring report shall be submitted to VFPA within six months of project completion to confirm that the Project did not result in significant noise impacts.

39. The Proponent shall provide copies of the noise monitoring reports to other parties when and as directed by VFPA’s Environmental Programs Department.

Conditions that relate to Debris and Waste Materials

40. Construction wastes shall be reused or recycled where practical and as appropriate.

41. The Proponent shall ensure that debris and waste material resulting from the project are contained, collected, and disposed of at suitable upland locations using standards, practices, methods and procedures to a good commercial standard, conforming to Applicable Law and using that degree of skill and care, diligence, prudence and foresight which would be reasonably and ordinarily expected from a qualified, skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances. The Proponent shall have due regard for the applicable prohibitions and restrictions for burning a wide range of materials in British Columbia, such as creosote-treated wood.