**PROJECT PERMIT NUMBER 2012-066**

<table>
<thead>
<tr>
<th>DATE OF APPROVAL</th>
<th>January 23, 2013</th>
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<tbody>
<tr>
<td>APPLICANT</td>
<td>Neptune Bulk Terminals Ltd.</td>
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<tr>
<td>ADDRESS OF APPLICANT</td>
<td>1001 Low Level Road, PO Box 86367 North Vancouver BC V7L 4K6</td>
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<tr>
<td>PROJECT LOCATION</td>
<td>1001 Low Level Road, North Vancouver</td>
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<tr>
<td>PROJECT TITLE</td>
<td>Neptune Coal Capacity - Allison</td>
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**PROJECT DESCRIPTION**

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

Installation of a coal dumper building, related conveyor and equipment, and a replacement shiploader.

**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 Review 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 any works as contemplated by this Permit;

5. Development shall be generally in accordance with the application submitted by Ron Sander on behalf of Neptune Bulk Terminals Ltd. on June 1, 2012, including the attached drawings titled, numbered and dated:
   - “Allison General Overall Site Plan without Aerial” No. 303817-GA-100-100-1001-002, Dated June 16, 2012, Revision A, by Hatch Mott MacDonald;
6. The Applicant shall adhere to the conditions listed on the attached VFPA Schedule of Environmental Conditions numbered 12-066;

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 commencement of construction, the Applicant shall submit signed and sealed drawings and professional letters of assurance approved for construction by a professional engineer licensed to practice in the Province of British Columbia, and shall obtain a VFPA Building Permit;

10. The Applicant shall provide VFPA with a construction schedule prior to commencement of construction and shall provide VFPA with regular updates of the construction schedule throughout the duration of construction;

11. The Applicant shall notify VFPA upon commencement of construction of the approved works and upon completion of the Project;

12. A construction notice shall be mailed to residents that received the household information mailer at least two weeks prior to commencement of construction;

13. The Applicant shall ensure that an Archaeological Monitor registered to practice in British Columbia is on site during excavation of the dumper building foundation, and will cease all related activities should any archaeological artifacts be uncovered, and until such time as a recovery and mitigation plan is reviewed and approved by VFPA;

14. The Applicant shall adhere to the recommendations made in the noise study prepared by BKL and submitted to VFPA on November 10, 2012, including maintenance of strict operating noise controls, new administrative controls, use of quieter fan motors, and acoustic design review;

15. The Applicant shall submit plans detailing the train wheel noise abatement devices proposed in accordance with the recommendations of the noise study conducted by BKL and submitted to VFPA on November 10, 2012;

16. All construction activities shall be in compliance with City of North Vancouver Noise Control By-Law No. 5819, as amended;
17. The Applicant shall prepare and implement a construction traffic plan prior to the commencement of construction, to the satisfaction of VFPA;

18. The Applicant shall designate a point contact who shall be responsible for coordination of on-site construction activities with VFPA contractors and consultants working on the Low Level Road project for the duration of construction of the authorized upgrades;

19. 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;

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

21. The approved works must commence by January 31, 2014 (the “Commencement Date”) and be complete no later than January 31, 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 approval.

Original Copy Signed

Peter Xotta
Vice President Planning and Operations
Project Description

Neptune Bulk Terminals Ltd. (NBT) proposes to upgrade and expand metallurgical coal handling systems at the terminal facility located at 1001 Low Level Road, North Vancouver, BC. The purpose of the upgrade works is to increase throughput and improve coal handling operations. The increased vessel traffic from the project is expected to be approximately one additional train per day and one additional vessel per week.

The proposed works include the installation of a second rotary railcar dumper, a new railcar indexer, a new elevated conveyor connecting the second railcar dumper to the existing stockyard, and replacement of the existing Berth 1 shiploader boom with a longer boom.

Dumper Vault and Building

- The new railcar dumper will be located in the north-east corner of the facility, approximately 300 m from Burrard Inlet. The new dumper will be installed parallel to the existing railcar dumper to allow incoming trains to be split into two strings for simultaneous unloading. The height of the new dumper building will be consistent with the existing dumper building at 12 m above grade.

- A vault approximately 13 m wide, 33 m long, and 21 m deep will be excavated to house the dumper barrel and associated equipment. The construction method for vault construction will involve injecting concrete slurry into the subsurface to form walls in-situ, then sealing the bottom of the walls with jet grout prior to excavating soils within the walls. This underground vault “box” will minimize the groundwater entering the excavation area and limit the dewatering required. Groundwater entering the excavation during construction will be conveyed to and treated by the existing on-site water treatment and effluent discharge system.

- A significant quantity of soil will be excavated for the construction of the vault. Testing and disposal procedures will be followed to check for contaminated material.

- A 75 m long tunnel will be constructed from the base of the vault to ground level. The vault and tunnel will have concrete walls and slabs with interior architectural block walls.

- An Archaeological Overview Assessment (AOA) conducted for the project concluded that there is a potential for excavation activities to impact unidentified archaeological sites in the project area, particularly the dumper vault location. An Archaeological Impact Assessment (AIA) in the form of construction monitoring was recommended during excavation activities in this area. The highest potential for cultural materials within the dumper footprint is considered to be soils 2.75 to 4 m below ground surface, which were likely near ground surface prior to industrial development.

- The existing GVRD Air Quality Management Permit, No. GVA0081, will be amended to include the second dumper as a new point source. NBT will comply with the GVRD Air Quality Management Permit during construction and operation.
Conveyors

- The new elevated conveyor system will be comprised of two coal receiving conveyors in series moving coal from the dumper to the stockyard conveyor. Water sprays will be located at transfer points from one coal receiving conveyor to the next, and from the second receiving conveyor to the yard conveyor system. The dust control system will be upgraded, as necessary.
- From the stockyard, an upgraded conveyor will transfer coal to the new shiploader. Conveyors between the sampler cutter and the analyser will also be upgraded as part of these works.
- Dust control measures will include dust capture and collections systems, a water-based suppression system at transfer points, and specialized chutes.

Shiploader Replacement

- The west quadrant shiploader will be replaced to allow Capesize vessels to be loaded without moving the ship back and forth. The new shiploader will have a longer boom and a specially-designed spout to allow all hatches to be reached for ships ranging from Handymax to Capesize.
- The new shiploader will be heavier than the existing one. It will have additional wheels relative to the existing shiploader to spread the load onto the quadrant beam. The existing in-water piles will be retained, with the exception of the last pile cap on the shore end of each side. These pile caps, consisting of two piles each, are undersized relative to the rest of the piles and will be replaced as part of ongoing maintenance. The entire pile and pile cap will be replaced at these two locations.
- The quadrant beam will be removed and replaced with a new beam that distributes the load from the shiploader more effectively. The beam will be extended onto the land side of the berth to provide a track for the wider wheel base. In-land piles will support the extensions.
- The west pivot foundation, located on the upland adjacent to the berth, will be strengthened to support the increased loading. Additional foundation components will be added outside the existing foundation with pile supports to provide increased strength. Grade beams, also supported by piles, will be added tostructurally connect the pivot foundation to the quadrant beam.
- A total of four in-water steel piles will be installed, with two concrete pile caps being poured in place for each pair of piles. No other in-water works are associated with the project. A total of 32 new piles will be added in-land to provide increased foundation support. Some excavation may be required.

Water Treatment System

- Additional process water (e.g., spray, wash-down) will be required as a result of increased throughput once upgrades are complete. The existing supply system will be sufficient to accommodate the additional demands, although new booster pumps may be required to maintain sufficient water pressure and meet specific operational requirements at certain locations.
During operation, water will be treated through the existing coal water treatment and discharge system. The critical design scenario for the existing water treatment system is a 10-year return period and 24-hour duration storm event. As the stockpile footprint and total catchment will remain unchanged, the design scenario is not significantly affected. While additional wash-down flows will be created at various locations, the total wash-down water will still be less than the critical design scenario.

Noise

An Environmental Noise Assessment was conducted to determine the noise impacts of several NBT projects. The noise assessment included the proposed coal handling upgrade works, a new section of rail line previously reviewed as PP 2010-167, a new proposed stacker/reclaimer under review as PP 2012-097, and a phosphate rock handling facility reviewed as PP 2012-041.

The noise assessment concluded that the projects would result in a small reduction in noise emissions from NBT, provided that proposed low noise initiatives are enforced and strict operating noise controls are maintained on high noise rail activities. These include: maintaining slow and gentle impacts during shunting; track lubrication on bends; and, low speeds for trains moving around the rail loop.

Information Sources

- Email from Ron Sander (NBT) to Tim Blair (Vancouver Fraser Port Authority, VFPA) and Jennifer Natland (VFPA), March 5, 2012, 10:08 am, Re: Neptune Projects – Follow Up meeting.
- A series of “Allison” drawings, prepared by Hatch Mott MacDonald:
  - Drawing No. 303817-GA-100-100-1001-01, Revision A, “Overall Site Plan With Aerial”, dated 2012.05.22;
  - Drawing No. 303817-GA-100-100-1001-02, Revision A, “Overall Site Plan Without Aerial”, dated 2012.05.22;
  - Drawing No. 303817-MH-100-100-1020-01, Revision A, “Coal Handling Flow Diagram”, dated 2012.05.22;
  - Drawing No. 303817-AR-100-400-1003-01, Revision A, “Coal Dumper Building #2 – Enclosure Cladding - Elevations”, dated 2012.05.22;
  - Drawing No. 303817-MH-100-400-1003-02, Revision A, “Coal Dumper Building No.2 General Sections”, dated 2012.05.22;
  - Drawing No. 303817-MH-100-400-1011-01, Revision A, “Coal Receiving Conveyor C101 Plan and Elevation”, dated 2012.05.22;
  - Drawing No. 303817-MH-100-400-1011-01, Revision A, “Coal Receiving Conveyor C102 Plan and Elevation”, dated 2012.05.22;
  - Drawing No. 303817-MH-100-600-1005-01, Revision A, “Berth 1 – Coal Shiploaders Setting Plan”, dated 2012.05.22; and,
  - Drawing No. 303817-MH-100-600-1006-01, Revision A, “West Coal Shiploader Elevation”, dated 2012.05.22.
Project: Coal Handling Infrastructure Upgrade and Expansion
Location: 1001 Low Level Road North Vancouver, BC
VFPA Site/Area No.: CNV074
Proponent(s): Neptune Bulk Terminals Ltd.
ERC Track/Number: 1/2012-12-B025


Email from Ron Sander (NBT) to Tim Blair (VFPA), June 18, 2012, 3:24 pm, Re: PMV Info – Allison.

Email from Ron Sander (NBT) to Tim Blair (VFPA), September 10, 2012, 8:44 am, Re: additional PMV Info – Pile caps and water uses.


Email from Ron Sander (NBT) to Tim Blair (VFPA), December 6, 2012, 4:33 pm, Re: additional PMV Info - Pile caps and water use - Neptune Allison.

Email from Ron Sander (NBT) to Tim Blair (VFPA), January 7, 2013, 2:22 pm, Re: Questions for Port Permit, with the following attachments:
- Material Safety Data Sheet for “NALCO® 8882”, issued 2009/12/24;
- Material Safety Data Sheet for “OPTIMER® 83949”, issued 2009/11/16; and,
- Two photos of the spray station.

Environmental Conditions

If the “project description” summary does not accurately reflect the subject proposal, please advise VFPA Environmental Programs immediately as this may affect the assumptions underlying this assessment. If the summary does accurately reflect the subject proposal, the following are the minimum conditions that must be followed to mitigate potential or foreseeable adverse environmental effects.

1. Neptune Bulk Terminals Ltd. (NBT) shall ensure that all works are as described in the above referenced documents. Works other than those described are not authorized with this document.

2. NBT acknowledges that all plans and specifications relating to this project have been duly prepared and reviewed by appropriate professionals working on their behalf. NBT 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. All work associated with the subject project shall 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 either directly or 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 ongoing responsibilities in this regard.
4. All works shall be carried out in such a manner so as to avoid any adverse impact on fish or fish habitat. If the harmful alteration, disruption or destruction of fish habitat occurs, the works will be in contravention of Section 35 of the *Fisheries Act*. Fisheries and Oceans Canada has advised that if such impact occurs it reserves the right to immediately suspend or alter operations and the applicant shall undertake, at his or her own expense, any compensatory and/or remedial works deemed necessary by Fisheries and Oceans Canada to ensure a “no net loss” in the productive capacity of local fish habitat.

5. Debris and waste materials generated during these works shall be appropriately contained, collected, and disposed of at appropriate upland locations in accordance with all applicable legislation, guidelines, and best management practices.

6. Any soils excavated from the site during the proposed works shall be handled in a manner that will prevent their release into the aquatic environment, either directly or indirectly as silt in storm runoff.

7. Excavation works shall be monitored for the presence of contaminants. Should materials be encountered that may be or are suspected to be contaminated, NBT shall immediately advise the VFPA. NBT shall ensure that all contaminated materials are removed, contained, and disposed of at an appropriate permitted off-site landfill.

8. 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.

9. Any materials brought onto the property to be used for backfilling shall be from sources documented to be clean and free of contamination.

10. All work associated with the project involving the use or demolition 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. 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.

11. Best efforts shall be employed to prevent the deposition of debris into the aquatic environment. Any debris that is deposited, floating or sinking, shall be contained within the immediate area of the work site and recovered as soon as possible. Sinking debris shall be recovered by diver or other non-intrusive means (e.g. recovery by grapple or clamshell is not permitted unless specifically authorized by VFPA Environmental Programs).

12. Piles shall be driven with a vibratory or drop hammer. In the event that a diesel or hydraulic hammer or other technology such as drilling is required to install the piles, VFPA Environmental Programs shall be consulted for additional review and authorization in this regard prior to initiating the physical works.
13. In the event that distressed, injured or dead fish are observed following the initiation of pile driving, the work shall be halted immediately and VFPA Environmental Programs shall be consulted for additional authorization requirements before the work may be resumed.

14. Any exposed hollow pipe piles shall be capped to prevent wildlife entrapment.

15. Any sediment contained within the piles after driving shall be left in place. If it is determined that they must be removed for engineering reasons, NBT shall consult VFPA Environmental Programs for additional review and authorization prior to initiating the proposed works.

16. NBT shall ensure that barges or other vessels used during the works are not permitted to ground on the foreshore or seabed or otherwise disturb the foreshore or seabed (e.g., disturbance as a result of vessel propeller wash) other than the minimum disturbance associated with the use of spuds.

17. 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:

- 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.

- 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.

For the purposes of this letter, background is defined as the level at an appropriate adjacent reference site that is affected neither by works at the site, nor sediment-laden or turbid waters resulting from works at the site.

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

19. All equipment should 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.

20. 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 nonroad or offroad equipment, every effort should be made to use Tier 3 equipment or better.
21. During construction, NBT shall ensure that best practices are followed with respect to fugitive dust control, generally including, but not limited to, the following:
   a) No visible dust beyond the property line;
   b) Tracked out material is not to exceed eight (8) metres;
   c) A wheel washing facility to reduce track out shall be established, if appropriate;
   d) Vehicles used to transport bulk fine materials shall be covered;
   e) Stockpiles of soil or aggregate shall be stabilized with water;
   f) Paved sections subject to dust accumulations are to be cleaned/wetted on a regular basis; and,
   g) Unpaved sections are to be wetted on regular basis.

22. For in-water works, the Fisheries and Oceans Canada, Conservation and Protection Field Supervisor for Lower Mainland/Squamish in Steveston, BC is to be advised at least two (2) days in advance of the start of the physical works (tel. 604-664-9250 or fax 604-664-9255). VFPA Environmental Programs and Harbour Master shall be copied on this notification (fax 1-866-284-4271 or email EnvironmentalPrograms@portmetrovancouver.com and Harbour_Master@portmetrovancouver.com). The physical works may not be initiated before the expiry of the notice period.

23. The VFPA reserves the right to rescind or revise these conditions at any time that new information warranting this action is made available to the Port. The VFPA also reserves the right to monitor compliance with these conditions.

24. It is understood that by proceeding with the subject works, NBT and its agent(s) and/or contractor(s) shall have indicated that they understand, accept and have agreed to the foregoing conditions. In this regard, a copy of this Schedule of Environmental Conditions is to be provided to any contractor(s) prior to work commencing. In addition, a copy of this Schedule is to be retained on site at all times when the subject works are underway, and shall be available for inspection by a Fishery Officer or other authorized person upon request.

The above comments and recommendations are based solely upon the consideration by the Vancouver Fraser Port Authority of the potential adverse environmental impacts associated with this project. Any other required approvals must be addressed directly with those responsible. Also, in the interests of public safety a Notice to Shipping action may be taken by contacting the agency below at least five (5) days in advance of your intended date of commencement.

Canadian Coast Guard
Vessel Traffic Services
23rd Floor, 555 West Hastings
Vancouver, BC, V6B 5G3
Tel (604) 666-6011
Fax (604) 666-8453