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Revision 2

November 8, 2018

Input Consideration Report



## **BHP Potash Export Facility at Fraser Surrey Docks**

Input Consideration Report – Application Review Public Comment Period

November 8, 2018

This Input Consideration Report presents the findings from the Application Review Public Comment Period for the BHP Potash Export Facility at Fraser Surrey Docks, undertaken by Lucent Quay Consulting Inc. on behalf of BHP Billiton Canada Inc. This document has been prepared as part of an application under the Project and Environmental Review process of the Vancouver Fraser Port Authority.

Lucent Quay Consulting Inc. is a Vancouver-based communications and engagement firm with extensive experience in port-related and general transportation projects.

Online feedback was collected using the Interceptum survey platform, which stores all data in Canada. The input received reflects the interests and opinions of people who chose to participate in the consultation process.

## Purpose of this Report

This Input Consideration Report provides a summary of comments and questions received during the Application Review Public Comment Period for the proposed BHP Potash Export Facility at Fraser Surrey Docks, and the related responses and actions from the Project Team. Interested parties were invited to provide feedback and ask questions about the studies, assessments and plans completed as part of the Project and Environmental Review (PER) application submitted to the Vancouver Fraser Port Authority (the port authority).

Activities conducted and input received during the Application Review Public Comment Period was summarized and compiled in the Application Review Public Comment Period Consultation Summary Report, which is available at [bhp.com/fsdpotashexport](http://bhp.com/fsdpotashexport) and on the [port authority's website](#). Input received during this phase of consultation will be considered by the port authority as part of the final application and by the Project Team during design and development of the Project.

## Project Overview

Subject to regulatory and internal approvals, BHP would design and construct an export facility to receive and store rail shipments of potash and load onto bulk ocean-going vessels. The proposed facility, with a throughput of up to 8 million tonnes per annum (Mtpa), will:

- Receive shipments of product by rail from the proposed Jansen mine in Saskatchewan
- Offload product from rail cars to the conveyor system
- Store potash in the product storage building
- Transfer product from the potash storage building via conveyors to the ship loader and to a waiting vessel for export

When the facility throughput reaches the projected 8 Mtpa, eight to ten trains per week are expected. Three to four vessels will load at the facility per week ranging from Handysize up to Kamsarmax, similar to vessels that already frequent the existing terminal.

Potash, technically known as potassium chloride (KCl), is a naturally occurring mineral salt and a key ingredient in agricultural fertilizer, including common household garden fertilizers. Potash is non-flammable, non-combustible and is considered non-toxic to aquatic species. Similar to table salt, potash is mildly corrosive to metals, and is water-soluble and requires a dry location for storage. Potash is processed into solid particles that are up to 4 mm in size and range from pink to red in colour. The world's largest known reserves of potash are located in Saskatchewan, Canada.

About 95 per-cent of potash production is used in fertilizers, with the remainder used in other chemical and manufactured products. Potash-based fertilizers are a major contributor to improving crop yields and resilience and helping to feed a growing global population.

## Application Review Public Comment Period Overview

The Project Team led a comprehensive round of engagement and consultation in accordance with port authority requirements as part of the PER process. The Application Review Public Comment Period was designed to inform the local community and stakeholders about the results of studies conducted as part of the process and was held June 28 to July 27, 2018. Project stakeholders and members of the public were invited to provide comments and ask questions about the studies, assessments and plans completed as part of the PER process.

BHP is working with the port authority to ensure that community and stakeholder interests are considered as part of the PER process. The engagement and consultation strategy meets all requirements outlined by the port authority for public and stakeholder consultation. Guidelines outlining the requirements are available on the [port authority's website](#).

During the Application Review Public Comment Period, the following activities were completed as per the port authority guidelines:

- Updated the **Project website** to make all application information available to the community and stakeholders
- Placed **advertisements** in four local newspapers
- Created a **discussion guide and display boards** for download on the Project website and printed for community open houses
- Developed an **online feedback form** to collect community and stakeholder input and made paper copies available at the open houses
- Developed a **notification postcard and letters**, which were delivered by hand, regular mail and email to neighbouring residents, local businesses, three community associations and to municipal, provincial and federal government stakeholders by email
- Hosted two community **open houses** at locations in local communities (Surrey and New Westminister)

The Application Review Public Comment Period provided a variety of methods for participation and input, including open houses, an online feedback form, and a Project phone number and email address.

Participation results are as follows:

- Two people attended the public information meeting in Surrey/Delta
- 11 people attended the public information meeting in New Westminister
- 11 people completed the feedback form online
- Three written submissions were received by email from local residents
- Unique page views on the project website during the Application Review Public Comment Period are as follows:
  - Main Project page – 44 views
  - Potash Export Facility page – 146 views
  - Provide Input page – 44 views
  - Digital Information Room page – 96 views

Participants who completed the feedback form indicated that they had heard about the meeting through:

- Friends or neighbours
- Local newspapers (New Westminister Record and Surrey NOW-Leader)
- Notification letter delivered to home or business
- Email
- Website

Further details about the Application Review Public Comment Period are provided in the Application Review Public Comment Period Consultation Summary Report available at [bhp.com/fsdpotashexport](http://bhp.com/fsdpotashexport) and on the [port authority's website](#).

This is the second public comment period for this Project. A Preliminary Public Comment Period was held from October 12 to November 8 2017, and was designed to introduce the company and the Project to interested parties. The Preliminary Consultation Summary Report can be viewed or downloaded on the [Project website](#) or [port authority's website](#).

### **Consideration of Consultation Input**

The following table summarizes input received from respondents through the Project online feedback form, public meetings and written submissions and also includes the Project Team's response to each question or comment.

Please note that similar comments or questions have been summarized into themes. For detailed verbatim comments, please see Appendix 5 of the Application Review Public Comment Period Consultation Summary Report, available at [bhp.com/fsdpotashexport](http://bhp.com/fsdpotashexport) and on the [port authority's website](#).

Theme	Consultation Input	Project Team Response/Action
<b>ENGINEERING STUDIES – ENERGY EFFICIENCY STUDY</b>		
Projected energy savings	Savings from what total number?	The baseline estimate of total plant load is 11,007 megawatt-hours per annum (MWh/a), and the optimised total plant load is estimated at 9,471 MWh/a.
<b>ENVIRONMENTAL ASSESSMENT STUDIES – NOISE</b>		
Potential noise effects during night time hours	Conveyors and trains can be very noisy, especially at night.	Baseline noise conditions at the site were collected and compared to predicted future noise levels for the Project in the Noise Assessment. Noise from specific noise generating sources associated with the Project have been addressed in the assessment. The Project will implement low noise initiatives, including those for rail squeal and automated unloading which eliminates train “stop and go” noise. Predicted increases in noise due to the proposed project are well within the guidelines established by the port authority and Health Canada.
Current noise levels	To say not as bad as noise from highway 17 is not a good answer. Possibly highway 17 needs sound reduction such as high retaining walls.	<p>The operational environmental noise assessment has been completed in accordance with the requirements of the Vancouver Fraser Port Authority’s PER guidelines. With the application of low noise initiatives incorporated into the Project design, the predicted increases in noise are well within the guidelines established by the port authority and Health Canada. While some Project noise events may be noticeable, the increase in the annual average total noise for the operational scenario, with and without the Project in 2030, is predicted to be no more than 1 A-weighted decibels (dBA), an imperceptible change.</p> <p>Noise from highways is typically assessed in accordance with the Ministry of Transportation and Infrastructure noise policy.</p>

Theme	Consultation Input	Project Team Response/Action
	<p>Concerned about ambience.</p>	<p>Baseline noise conditions at the site were taken and compared to predicted future noise levels for the Project in the Noise Assessment.</p> <p>The operational environmental noise assessment has been completed in accordance with the requirements of the Vancouver Fraser Port Authority's PER guidelines. Predicted increases in noise due to the proposed project are well within the guidelines established by the port authority and Health Canada.</p>
	<p>We have seen a huge increase in noise and dust from Fraser Surrey Docks, in the past few years. We are very concerned about the additional noise the operations of the facility will cause, noise from additional trains, dust and smell.</p>	<p>Baseline measurements were undertaken in the community and used to calibrate noise models to enable the proposed and existing facility noise to be compared directly. Baseline measurements include noise levels measured before the Project based on existing conditions. Future noise levels, with the proposed facility operating at full capacity, are predicted using industry best practice 3-D modelling software.</p> <p>The operational environmental noise assessment has been completed in accordance with the requirements of the Vancouver Fraser Port Authority's PER guidelines. With the application of low noise initiatives incorporated into the Project design, the predicted increases in noise are well within the guidelines established by the port authority and Health Canada. While some Project noise events may be noticeable, the increase in the annual average total noise for the operational scenario, with and without the Project in 2030, is predicted to be no more than 1 A-weighted decibels (dBA), an imperceptible change.</p> <p>Please see the air quality section below for responses related to dust effects.</p>

Theme	Consultation Input	Project Team Response/Action
<b>ENVIRONMENTAL ASSESSMENT STUDIES – AIR QUALITY</b>		
Potential air quality effects from Project on neighbouring community	The dust, noise, pollution and heavy traffic which is already a serious problem, and not solved, will seriously aggravate the current situation.	<p>Predicted air quality effects, including ambient background levels, at sensitive receptor and residential neighbourhoods, are generally low and remain below all ambient air quality objectives (AAQO) set in the 2015 British Columbia Air Quality Dispersion Modelling Guideline (AQMG) and adhered to by the port authority. For all air contaminants, there are no predicted exceedances of the AAQO outside the immediate area of the Project fenceline.</p> <p>In order to avoid significant adverse effects, mitigation measures have been proposed to minimize potential impacts on the environment and the community. Please refer to the Air Assessment, Noise Assessment and Traffic Impact Study for additional information on existing conditions, potential effects and proposed mitigation measures.</p>
Emissions from rail and marine traffic	I am more concerned about pollution from increased diesel locomotives and increased freighters.	<p>The environmental air assessment for the Project included developing an air emissions inventory for the existing, baseline conditions and the future, Project conditions. The baseline and Project emissions were then modeled using the CALPUFF modeling suite as per port authority guidance and the 2015 British Columbia AQMG to predict the impacts of Project emissions on air pollutant concentrations. Predicted air pollutant concentrations were compared to AAQO.</p> <p>Based on the predicted air quality impacts from the Project emissions, the following conclusions can be drawn from the environmental air assessment:</p> <ul style="list-style-type: none"> <li>• Predicted air quality effects, including ambient background levels, at sensitive receptors and residential neighbourhoods are generally low and remain below all AAQO.</li> </ul>



Theme	Consultation Input	Project Team Response/Action
		<ul style="list-style-type: none"> <li>The predicted air contaminant concentrations quickly diminish as emissions disperse further away from the Project.</li> <li>For all air contaminants, there were no predicted exceedances of the AAQO outside the immediate area of the Project fenceline.</li> <li>The potential for exceedance of the AAQO for a variety of air pollutants was modelled at three locations located less than 100 meters from the Project development area border. Exceedances of AAQO for areas outside of the project development area on site at Fraser Surrey Docks are not anticipated from the Project.</li> </ul> <p>Additional information is provided in the Air Quality Assessment.</p>
<b>ENVIRONMENTAL ASSESSMENT STUDIES – TRAFFIC</b>		
Potential effects of increased rail traffic	Traffic delays due to trains are a problem.	For the Robson Road crossing at Elevator Road an increase of road blockages would occur without mitigation. To mitigate the Project-generated road blockages, a conceptual design for an overpass has been developed inside the Project area. This proposed mitigation is identified in the Traffic Impact Study. The overpass would improve access to Gunderson Slough and Fraser Surrey Docks.
	Major concern with access along Timberland Road. If the proposed re-routing of traffic or Hwy 17 interchange proposals move ahead this will help the train and truck traffic issue. Want the proposed traffic solutions as part of the overall Project.	To mitigate the Project-generated road blockages, a conceptual design for an overpass has been developed inside the Project area. This proposed mitigation is identified in the Traffic Impact Study. The overpass would improve access to Gunderson Slough and Fraser Surrey Docks.
<b>ENVIRONMENTAL ASSESSMENT STUDIES – FLOOD PROTECTION</b>		
Effects of flooding on product	Any flooding would create huge disposal problem as wet potash probably not useable.	Design features for flood protection include a concrete perimeter wall around the product storage shed. Additional flood mitigation for the storage building may include temporary measures such as sand bags, water-filled flood barriers, or flexible membrane barriers.

Theme	Consultation Input	Project Team Response/Action
<b>PROJECT PLANS – STORMWATER POLLUTION PREVENTION PLAN</b>		
Potential storm water run-off and effects on Fraser River	So there will be some storm water pollution?	<p>The Stormwater Pollution Protection Plan (SPPP) is intended to proactively and efficiently manage stormwater pollution risks during Project operation, integrate BHP operational procedures and complement existing FSD plans. The SPPP was prepared in accordance with the following guiding principles:</p> <ul style="list-style-type: none"> <li>• Minimise the amount of stormwater discharged to the environment</li> <li>• Prevent or minimise the pollutant loading of stormwater</li> <li>• Treat or otherwise manage stormwater if pollutant loading cannot be prevented</li> <li>• Integrate effectively with FSD's stormwater system</li> </ul> <p>Mitigation for stormwater runoff during construction is addressed in the Project's Construction Environmental Management Plan.</p>
<b>PROJECT PLANS – RAIL OPERATIONS PLAN</b>		
Potential effects of increased rail on nearby residents	Mitigation of crashing noise. Especially at night.	Shunting of rail cars can generate crashing noise. Shunting is not required for this Project and trains will enter and exit the site as one unit train. The unit trains will unload as a complete unit and trains will not be broken into smaller strings.
Level of increased rail activity	How much traffic would be created.	During initial operations when BHP is shipping approximately 4 Mtpa, a train will be handled at the facility every 1.7 days. When the operations increase to 8 Mtpa, a train will be handled every 0.8 days (approximately 8 trains per week).

Theme	Consultation Input	Project Team Response/Action
<b>PROJECT PLANS – SPILL PREVENTION AND EMERGENCY RESPONSE PLAN</b>		
Spill protection for nearby residents and ecology of river	The amount of rain we have, what if the potash gets washed into the water, we will have a huge pollution issue. Of course, all measures to mitigate this is put in place, but like any industrial accident, all it takes is just an accident. if the water source is polluted, it is going to have a great impact on ecology, and lives, and many other repercussions.	<p>The proposed potash storage area is fully enclosed and conveyors are covered to protect the product from rain and to minimize the potential for potash entering watercourses.</p> <p>In the event of an accidental release of potash during operations, two plans provide measures to address the spill:</p> <ul style="list-style-type: none"> <li>• Stormwater Pollution Protection Plan (SPPP)</li> <li>• Spill Prevention and Emergency Response Plan</li> </ul> <p>Key mitigation for accidental spills include maintaining a clean and safe operating facility and process sumps to capture potash solution. Process sumps are isolated from the stormwater system and would be routinely maintained to prevent accidental releases to watercourses. Potash is considered non-toxic to aquatic species.</p>
<b>GENERAL</b>		
Conveyor transfer points locations	I received a card in the mail. It showed a conveyor transfer point over the water. I looked on the Internet for more information, and this transfer point was not shown any more. Transfer points over the water cause spills into the river. I have seen photos of other types of conveyors for ship loading that do not have transfer points over the water.	<p>Transfer Tower 4 is located over the water, please see Figure 2-2 in the PER application. Transfer Tower 4 must be located in alignment with the berth and ship loader in order to enable loading operations. Based on the layout of FSD, the most suitable location is in the water adjacent to Berth 9.</p> <p>The alternative to locating the transfer tower over the water was to extend the berth. A berth extension over the water would have greater environmental effects than the proposed transfer tower alternative. The transfer tower is enclosed to prevent any spillage and will have a dust collection system. Regular maintenance and state-of-the-art equipment will ensure potential for spills is minimized. A spill response plan will also be in effect in the event of a spill.</p>
Mitigation of potential impacts	Could be good project if noise and traffic impacts are eliminated. Obvious positive economic merit.	Noise and traffic mitigation measures are provided in the Noise Assessment and Traffic Impact Study.