

NO: R238

COUNCIL DATE: **NOVEMBER 25, 2013**

REGULAR COUNCIL

TO: **Mayor & Council** DATE: **November 21, 2013**

FROM: **General Manager, Engineering** FILE: **5650-20(FRPA)**
General Manager, Planning and Development

SUBJECT: **Update on the Application to Port Metro Vancouver by the Fraser Surrey Docks to Implement a Direct Transfer Coal Facility at the Fraser Surrey Docks**

RECOMMENDATION

The Engineering Department and the Planning and Development Department recommend that Council:

1. Receive this report as information;
2. Authorize the City Clerk to forward a copy of this report and the related Council resolution to each of Fraser Surrey Docks (FSD) and Port Metro Vancouver as the City of Surrey's comments on the recently released Environmental Impact Assessment report titled "*Environmental Impact Assessment for the Direct Transfer Coal Facility*"; and
3. Authorize the City Clerk to forward a copy of this report and the related Council resolution to the Chief Medical Health Officer of the Fraser Health Authority with a request that the Fraser Health Authority undertake a full review of the Environmental Impact Assessment that was recently released by the FSD for public comment.

INTENT

The purpose of this report is to provide an overview of an Environmental Impact Assessment that has been completed in support of the application by Fraser Surrey Docks ("FSD") to implement a Direct Transfer Coal Facility at FSD.

BACKGROUND

At its Regular Council meeting on March 11, 2013 Council considered Corporate Report No. R044; 2013 titled "Application to Port Metro Vancouver by Fraser Surrey Docks for a Proposed Direct Transfer Coal Facility at Fraser Surrey Docks." A copy of that report is attached to this report as Appendix I. The report provided details on an application by FSD to Port Metro Vancouver ("PMV") to install and operate a Direct Transfer Coal Facility (the "Facility") at the existing Surrey terminal. Under the proposal, coal hauled from the USA by Burlington Northern Santa Fe ("BNSF") railway would be loaded at the Facility onto barges for towing to Texada Island. The proposed Facility would handle up to 4,000,000 metric tonnes of coal per year. The report

outlined concerns related to the transportation of coal through Surrey by way of the BNSF railway and related to the operation of the Facility. The concerns centred around three main issues:

- coal dust;
- noise; and
- increased rail traffic.

Council instructed the City Clerk to forward a copy of that report and the related Council resolution to PMV and FSD as the City's comments on the application. Council also directed staff to request that a specific response be sought from PMV addressing the concerns outlined in the report.

At its meeting on May 6, 2013 Council considered the following recommendation of the Environment and Sustainability Advisory Committee:

“..that Council recommend staff and the Environmental Advisory Committee be part of the consultative and Environmental Assessment Review process for the Fraser Surrey Docks Ltd. Partnership – Coal Facility Project proposal”.

After considering the recommendation, Council resolved as follows:

“That the recent correspondence received by the City of Surrey from Port Metro Vancouver related to the Fraser Surrey Docks Coal Transfer Facility be forwarded to the Environmental Advisory Committee and that the Committee be advised that the authority related to approving the Fraser Surrey Dock (FSD) application including environmental considerations rests with Port Metro Vancouver who are consulting with stakeholders including affected municipalities as part of the process of considering the application.”

On May 15, 2013 the City received a notice from PMV of additional consultation in the form of open houses being hosted by FSD in Surrey on May 23 and 25, 2013. Included in the PMV notice was information about how the concerns outlined in Corporate Report No. Ro44;2013 would be addressed, among other concerns. Staff attended the FSD open house on May 23, 2013 and found that the concerns raised at this meeting were consistent with those previously considered by Council.

On October 28, 2013 a delegation appeared before Council-in-Committee to present a number of concerns related to the proposed Facility. Following this presentation, at its Regular Council meeting on the same date Council resolved that:

“Council not support the proposed expansion of thermal coal exports at Surrey Fraser Docks until:

- 1. an independent third-party Health Impact Assessment has been completed; and*
- 2. Port Metro Vancouver holds formal public hearings regarding the proposed project at Surrey Fraser Docks.”*

In response to concerns regarding the environmental and health impacts associated with the construction and operation of the Facility, FSD retained a consultant to complete an Environmental Impact Assessment (the "EIA"). The report related to the EIA was released by

PMV on November 18, 2013 and they have provided a period of 30 days for interested parties to comment on that report.

No public hearings regarding the proposed project at SFD are currently scheduled.

DISCUSSION

Staff has reviewed the *Environmental Impact Assessment for the Direct Transfer Coal Facility* (“the Report”) that was prepared by SNC-LAVALIN Inc. and their sub-consultants, a copy of which is attached to this report as Appendix II. The Report takes into account recent changes to the original permit application to address some of the concerns that were previously raised. These changes include:

- The elimination of the coal emergency stockpile on the site;
- The application of additional dust suppression agents on loaded rail cars mid-transit to the Facility; and
- The application of additional dust suppression agents prior to the loading onto barges at the Facility.

In general, staff has determined that the Report is incomplete, and that there are a number of concerns related to impacts to the environment and municipal infrastructure that could be caused by the Facility that have not been adequately addressed. These concerns are documented in the following section of this report.

Scope of the EIA

The Report only addresses the development and operation of the Facility itself at the FSD including new rail line infrastructure within PMV lands, the transfer of coal at the FSD Facility from rail cars onto barges and the moving of barges loaded with coal from the Facility to Texada Island. The Report does not address or evaluate the environmental or health impacts associated with the transporting of coal through the City of Surrey to the Facility by way of the BNSF railway. The City of Surrey had expressed significant concerns with the impacts of moving coal by rail through the City of Surrey to the FSD Facility.

Stormwater Management

The Report references and evaluates three potential stormwater management approaches for the Facility in relation to managing stormwater due to significant rainfall events. They are as follows:

- discharge to the City’s sanitary sewer system;
- discharge to the Fraser River; and
- infiltration.

Discharge to the City’s sanitary sewer system

Stormwater is not permitted to be discharged to the City's sanitary sewer system. Surrey's *Sanitary Sewer Regulation and Charges By-law, 2008, No. 16611*, states that:

"No person may discharge or continue to allow to be discharged into a *building sanitary sewer* or the *sanitary sewerage system* any *stormwater* or permit any *groundwater* infiltration."

This provision relates to the costs associated with the unnecessary conveyance and treatment of stormwater at the Annacis Island sewage treatment plant. Further the discharge of stormwater and groundwater to the City's sanitary sewer system can increase the frequency and duration of sanitary sewer overflows, especially during significant rainfall events, which have recently occurred along Metro Vancouver's collection system in this area.

In addition, the Material Safety Data Sheets related to some of the suggested chemical agents that are proposed to be applied to the coal to assist in dust control and binding and have the potential to run off during rainfall events, indicate that they should not be discharged to sewers.

Discharge to the Fraser River

Stormwater runoff will likely contain a large amount of sediment. In an effort to control sediment laden runoff, FSD is proposing a number of mitigation strategies, including the additional of a chemical flocculent. There is concern that the flocculent may be discharged to the Fraser River and have impacts on the ecosystem of the River.

Additionally, the Material Safety Data Sheets for many of the suggested chemical agents that may be used to assist in dust control and binding and have the potential to run off during rainfall events, indicate that they are not to be discharged to open water bodies. In addition, staff is uncertain of the toxicology of many of the suggested chemical agents and their impacts on River ecosystems.

Infiltration

Staff is unsure of the feasibility of infiltrating stormwater in this area given the high groundwater levels in this area, especially during significant rainfall events. No percolation tests were undertaken as part of the EIA to determine if this approach is feasible.

The Report also indicates that it is likely that the existing lands are contaminated due to past activities on the PMV lands and the groundwater is part of a shallow unconsolidated aquifer. Staff is therefore concerned that if there is infiltration capacity, it may result in the dispersion into the local groundwater system of contaminants associated with past activities on the PMV lands and related to any chemical agents that may be added as part of the operation of the Facility to assist in dust control and binding.

Dust Control

FSD is proposing to use water from the City's community water system to assist in dust control at the Facility. The Report does not quantify the amount of water that will be required in this regard.

A water use plan needs to be prepared that details the projected water use related to the dust control system and an assessment needs to be made in relation to potential negative impacts on the City's ability to supply water to development in the surrounding area.

Noise Control

The EIA identifies a number of noise mitigation measures related to the construction and operation of the Facility.

Erosion & Sediment Control

The Report recommends that weekly environmental monitoring be undertaken to ensure that stormwater runoff during construction of the project does not negatively impact receiving watercourses. Given the site's close proximity to the Fraser River and local watercourses, staff suggest that the FSD follow the inspection and reporting requirements as outlined in the City's Erosion and Sediment Control By-law, 2006, No. 16138.

Flood Risk

The Report indicates that the Facility will be constructed above an elevation of 3.8 m which is the flood level of the Fraser River as estimated by the Province. The Provincial standard for dykes is an elevation of flood level plus 0.6 metres (2 feet) of freeboard to account for water level increases from wind setup and storm surges. Therefore, the facility would need to be constructed above an elevation of 4.4 m in order to mitigate the risk of flooding.

Consultation with Staff

City staff was not consulted during the preparation of the EIA. Staff holds the view that the Report could have been more fulsomely completed had consultation with the City occurred during its development.

Health Impact Assessment

As part of the EIA, a health impact assessment, primarily relating to air quality resulting from dust, was undertaken. The Report indicates that the operation at the Facility is not likely to cause significant adverse health effects with the implementation of the mitigation measures. The Chief Medical Health Officers for each of the Fraser Health Authority and the Vancouver Coastal Health Authority, respectively, has expressed some concern with the health assessment as documented in the draft EIA that was provided to them in advance of the EIA report being released for public comment. A copy of correspondence to PMV from the Chief Medical Health Officers that documents their concerns is attached to this report as Appendix III.

Staff is unsure of any differences between the draft EIA provided to the Chief Medical Health Officers and the Report that has been recently released for public comment. In this regard it would be prudent for the City to request that the Chief Medical Health Officer at the Fraser Health Authority be requested to undertake a further review of the Report that has recently been released for public comment to which this report relates.

CONCLUSION

An application by FSD to install and operate a Direct Transfer Coal Facility is under consideration by PMV. As part of the consultation process, an EIA has been completed. Staff has a number of concerns related to the information contained within the Report that was recently released for public comment. The Chief Medical Health Officers for each of the Fraser Health Authority and the Vancouver Coastal Health Authority have expressed some concern with a draft EIA provided to them in advance of the Report being released to the general public.

Based on the above discussion, it is recommended that Council authorize the City Clerk to forward a copy of this report and the related Council resolution:

- to each of Fraser Surrey Docks (FSD) and Port Metro Vancouver as the City of Surrey's comments on the recently released Environmental Impact Assessment report titled "*Environmental Impact Assessment for the Direct Transfer Coal Facility*"; and
- to the Chief Medical Health Officer of the Fraser Health Authority with a request that the Fraser Health Authority undertake a full review of the Environmental Impact Assessment that was recently released by the FSD for public comment.

Jean Lamontagne
General Manager,
Planning and Development

Vincent Lalonde, P.Eng.
General Manager, Engineering

JA/brb

- Appendix I - Corporate Report No. R044;2013, titled "Application to Port Metro Vancouver by Fraser Surrey Docks for a Proposed Direct Transfer Coal Facility at Fraser Surrey Docks"
- Appendix II - Report prepared by SNC-Lavalin Inc titled "*Environmental Impact Assessment for the Direct Transfer Coal Facility*"
- Appendix III - Letter dated November 13, 2013 from the Fraser Health Authority and Vancouver Coastal Health to Port Metro Vancouver

NO: **R044**

COUNCIL DATE: **March 11, 2013**

REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **March 7, 2013**

FROM: **General Manager, Engineering
General Manager, Planning and Development**

FILE: **5650-20(FRPA)**

SUBJECT: **Application to Port Metro Vancouver by Fraser Surrey Docks for a Proposed
Direct Transfer Coal Facility at Fraser Surrey Docks**

RECOMMENDATION

The Engineering Department and the Planning & Development Department recommend that Council:

1. Receive this report as information; and
2. Instruct the City Clerk to forward a copy of this report and the related Council resolution to Port Metro Vancouver (PMV) and the Fraser Surrey Docks (FSD) as the City's comments on the application by FSD to PMV to install and operate a Direct Transfer Coal Facility at Fraser Surrey Docks and include in such communication a request that PMV address the concerns listed in this report in the application review process.

INTENT

The purpose of this report is to provide an overview of a Direct Transfer Coal Facility that is being proposed by Fraser Surrey Docks (FSD) at the Fraser Surrey Docks in Surrey and for which an application has been submitted to Port Metro Vancouver (PMV) and to document concerns with the proposed Facility that should be addressed by PMV in its consideration of the subject application.

BACKGROUND

The Vancouver Fraser Port Authority, which operates under the name Port Metro Vancouver (PMV), is a federal agency that is responsible for the operation and development of port interests along 600 km of shoreline in the Metro Vancouver area including the port activities along the Fraser River in Surrey.

Fraser Surrey Docks (FSD) is a tenant of the PMV lands in Surrey and is a large multi-purpose marine terminal that handles a variety of cargo including containers, steel, forest products, salt, and bulk materials.

FSD has submitted a project permit application to PMV for the development of a Direct Transfer Coal Facility (the "Facility") at the southwest end of the existing FSD terminal to handle up to 4,000,000 metric tonnes of coal per year.

The coal will be hauled by Burlington Northern Santa Fe (BNSF) railway to the Facility and will be loaded directly onto barges from the rail cars. The coal is expected to originate from Montana and Wyoming and will ultimately be shipped overseas. No coal is expected to be stored at the FSD terminal during normal operations; however, the Facility is being designed to accommodate the temporary storage of up to 30,000 metric tonnes of coal to address unforeseen circumstances.

When the coal is loaded on barges at the Facility, tugs will tow single barges down the Fraser River to its mouth. Once the barges pass Sand Heads, they will be towed in tandem to Texada Island, where the coal will be off-loaded and stored before being transferred to deep sea vessels for shipment overseas.

Although the current application is seeking to transfer as much as 4,000,000 metric tonnes per year, there is potential to increase volumes up to a total of 8,000,000 metric tonnes per year over the longer term but such an expansion would be subject to a new application to PMV for a project permit.

The current application process has included community engagement and has included referral to First Nations.

DISCUSSION

Staff has met with representatives of PMV and of FSD to better understand the proposed Facility and to identify potential implications that its implementation may have on stakeholders in Surrey.

The following sections document the results of staff's review of the proposal and list the concerns that from staff's perspective should be addressed by PMV in relation to its consideration of the application for the Facility. There are two fundamental aspects to the proposal, each of which has potential concerns to stakeholders in Surrey. These aspects are:

- A. The transportation of the coal through Surrey by way of the BNSF railway to the Facility;
and
- B. The operation of transferring the coal from rail cars to barges at the Facility.

A. Concerns Related to Transporting Coal by Railway through Surrey

Description:

The FSD is planning to receive coal by way of trains that will travel on the BNSF railway through Surrey and that will be approximately 135 rail cars long, approximately 7,500 feet in length. At the outset of the operation, FSD is planning to transfer 2,000,000 metric tonnes of coal per year at the Facility, which equates to approximately 160 trains per year or on average approximately one train every two days. FSD has advised that after the first year the amount of coal to be transferred through the Facility will be increased to 4,000,000 metric tonnes per year, which equates to 320 trains per year or an average of 1 train per day approximately. Each such train would pass through Surrey in a loaded condition going north and would pass through Surrey again after being

unloaded heading south (i.e., each train would result in two trips through Surrey; one in each direction).

Concerns:

1. *BNSF train blockages at Crescent Road and at other grade level rail/road crossings in Surrey*
Increases in rail traffic on the BNSF railway will result in increased delays at the single access point to Crescent Beach at Crescent Road. Approximately 16 to 20 trains per day currently pass Crescent Beach on the BNSF rail line. Six hundred and forty (640) new trains per year, which is the expected volume for the Facility, would increase total train movements by approximately 10% at this crossing (i.e., an average increase of just under 2 movements a day).

There is already concern within the Crescent Beach community regarding emergency access and regular access to the community being blocked due to trains on the BNSF railway. As mentioned above, Crescent Road is the only road connection to the Crescent Beach community. Although a “stopped train” protocol has been implemented with the BNSF through the Crescent Beach area, even when trains don’t stop they can cause extended blockages at Crescent Road due to speed restrictions on the railway trestle that crosses Mud Bay.

FSD has advised that it is expecting trains to arrive at the Facility between 12:00 a.m. and 6:00 a.m. and depart between 5:00 p.m. and 10:00 p.m. thereby minimizing the likelihood for delays at rail crossings in Surrey during normal higher road traffic periods.

2. *Coal Dust*
Members of the community have raised concern with the potential for the coal on the trains to shed coal dust due to wind turbulence that occurs as the trains move through Surrey and that the coal dust could have health, environmental and aesthetic impacts on the residents and properties located along the railway.
3. *Noise*
Additional train traffic will result in additional noise caused by the engines pulling the trains, the wheel noise of the train cars and the whistle noise at road crossings.

B. Concerns Related to the Transfer of Coal from Rail Cars to Barges at the FSD Facility

1. *Coal Dust*
Members of the community have raised concern with the potential for the transfer operation to cause coal dust that will be blown into the adjacent communities and which could cause health, environmental and aesthetic impacts on the residents and properties in these communities.
2. *Noise*
There is concern that the additional train traffic and the transferring of coal at the Facility will cause noise that will be a disturbance to those that work and/or live in the vicinity of the Facility. The City has experienced receiving complaints from residents in the area of the FSD in the past in relation to materials being handled at the FSD such as the moving of steel that has been handled at FSD.

3. Safety

There is concern that the storing of and transfer of coal at the Facility could be dangerous in relation to potential fires in view of the volatility of coal as a fuel.

Economic Development Interests

The City of Surrey is interested, subject to all stakeholder interests being reasonably addressed, in ensuring that the Fraser Surrey Dock Facility is used to its maximum potential so as to assist in ensuring a vibrant and sustainable economy in our City and the Region. It is recognized that port-related jobs are relatively high value jobs and therefore are good for the broader economy.

Public Consultation

PMV representatives and FSD representatives have met with City staff and have made presentations to each of the Environmental Advisory Committee (EAC) and the Transportation and Infrastructure Committee (TIC).

The EAC has resolved to advise Council as follows:

“that Council be made aware of the community and Environmental Advisory Committee concerns of coal dust and train noise when considering the Coal Transfer Facility proposal from the Fraser Surrey Dock Ltd. Partnership.”

The TIC did not pass a formal resolution but the comments in this report generally reflect the comments that were made by the Committee.

PMV representatives and FSD representatives have also met with the Crescent Beach Property Owners Association, the Corporation of Delta and the City of New Westminister. The concerns that are listed in the previous sections of this report are consistent with those raised during these other consultations.

CONCLUSION

Based on the above discussion, it is recommended that Council instruct the City Clerk to forward a copy of this report and the related Council resolution to Port Metro Vancouver (PMV) and the Fraser Surrey Docks (FSD) as the City’s comments on the application by FSD to PMV to install and operate a Direct Transfer Coal Facility at Fraser Surrey Docks and include in such communication a request that PMV address the concerns listed in this report in the application review process.

Jean Lamontagne
General Manager,
Planning & Development

Vincent Lalonde, P.Eng.
General Manager,
Engineering

JB/JA/brb

**Report prepared by SNC-Lavalin Inc titled
“*Environmental Impact Assessment for the
Direct Transfer Coal Facility*”**

To access the above report, please follow the links provided below:

<http://www.portmetrovancover.com/docs/default-source/PROJECTS-FSD/volume-1-main-document-and-executive-summary.pdf?sfvrsn=0>

<http://www.portmetrovancover.com/docs/default-source/PROJECTS-FSD/volume-2-appendices-i-to-vii.pdf?sfvrsn=0>

<http://www.portmetrovancover.com/docs/default-source/PROJECTS-FSD/volume-3-appendices-viii-to-ix.pdf?sfvrsn=0>

<http://www.portmetrovancover.com/docs/default-source/PROJECTS-FSD/volume-4-attachments.pdf?sfvrsn=0>



November 13, 2013

DARRELL DESJARDIN

Director, Environmental Programs
Port Metro Vancouver
100 The Pointe
999 Canada Place
Vancouver, BC V6C 3T4

Dear Mr. Desjardin:

RE: October 24 2013 draft of the Fraser Surrey Docks EIA

We thank you for the opportunity to provide comments on the above document prepared by SNC Lavalin for Fraser Surrey Docks (FSD). We apologize for missing the agency comment deadline. To minimize delay in the review process, we will provide a copy of our comments to the proponent (FSD) directly. Due to the short turnaround time for agencies to provide response, we will provide additional comments as necessary during the public comment period.

Should it proceed as planned, this project will see the transportation of coal on a segment of the BNSF line that did not transport coal before, through urban neighborhoods that never had experience with coal as a commodity on the railway, and into a port facility (FSD) that has never handled coal. Being this is a "first" in a number of fronts, expectations are appropriately high that the proponents will exercise very careful considerations with respect to the project's impact on the health and safety of the public, as well as its environmental impact.

We were encouraged when Port Metro Vancouver indicated the requirement that Fraser Surrey Docks complete an Environmental Impact Assessment of the project that included an assessment of health impacts of the full project, not limited only to impacts from activity at FSD. After reviewing the report, we provide the following high-level feedback:

1. The SNC-Lavalin report is primarily a repackaging of work previously done by other consultants, primarily Levelton Consultants Inc., with limited additional analyses to address concerns raised by ourselves, the public and local governments.

2. Most of the conclusions in the report about potential environmental and health impacts rely upon modeling work done by Levelton i.e. “Air Quality Assessment”. We are concerned about the underlying assumptions that informed that model, which were not assessed critically by SNC-Lavalin.
3. The assessment of potential health impacts is particularly disappointing, and receives minimal attention in the document. Of note, much greater consideration is given to the potential effects of the project on plants, fish and wildlife than to people. The report does not meet even the most basic requirements of a health impact assessment. SNC-Lavalin has included a 4-page summary describing general air toxins and their known health effects, but no link to this project. The appendix includes a short letter written by a toxicologist, Dr. Leonard Ritter, with his opinion about the potential health impacts of coal dust. The letter is based on the assumption that the Levelton model is accurate, and includes only a single reference pertaining to the potential health impacts of coal dust. No discussion is included of any other potential health impacts. This single toxicologist’s opinion does not meet the standards of a health impact assessment.
4. The report does not deal with the full scope of the project, from the time coal crosses the Canadian border to its transport and loading at Texada Island.

Based on these shortfalls, this report adds little to the information we require to determine the potential health impacts of the project and does not allow us to address legitimate concerns raised by members of the public and local governments.

We would still be very willing to meet with SNC-Lavalin to identify the parameters required to do an appropriate assessment of the potential health effects of the project, and we urge Port Metro Vancouver to ask Fraser Surrey Docks to revisit this report with that recommendation.

In addition to these general comments, we provide the following specific feedback on this draft of the report. Firstly, we ask that the May 27th 2013 letter to Port Metro Vancouver from Dr. Van Buynder Chief Medical Health Officer for Fraser Health, is included as an appendix, and that those concerns outlined in the letter are addressed in the report.

Since the May letter, we understand that a number of revisions has been made to the project with the intention to at least partially address the concerns. It is with this in mind that we provide the following additional comments.

1. The Spatial , Population, and Temporal Scope of the EIA

• Spatial

The draft EIA primarily covers the FSD site and the immediate surrounding areas on land and water. While we understand the limited jurisdiction Port Metro Vancouver has and that this EIA is primarily to address Port Metro Vancouver’s requirements, it is still disappointing that the proponent (FSD) chose not to include the Canadian side of the project supply chain from the border to Texada Island in the EIA. Locations where potential health impacts could be of concern are not limited to the FSD site and its vicinity. For the health and safety of the public, the scope of this EIA should not be limited to the construction and operations that will occur at the FSD site. As Dr. Van Buynder pointed out in his May 27th letter, “the public are particularly intolerant of piecemeal approaches to major projects”. This EIA will not be credible to the public unless it covers the entire geographic area in which this project will operate within British Columbia.

- **Population.**

The draft EIA provided only general descriptions of the population and growth trends for Surrey and Delta. While the document correctly identified children and the elderly as two of the vulnerable populations who could be more sensitive to project impacts such as air quality degradation, the document did not provide much detail on the sizes and locations of potentially sensitive population groups along the rail corridor from White Rock to FSD. The air dispersion modeling in appendix VIII did include sensitive receptors (locations of schools, child care and hospitals) in a 20km x 20km domain. However only the FSD emissions were included in the dispersion model. Indeed the distribution of the sensitive receptors in the model suggests that vulnerable populations are located all along the rail corridor and that modeling emissions from FSD only is not adequate.

As the draft EIA showed, the populations of Surrey and Delta are increasing. Yet the document did not include information on how these population increases may affect the size of the vulnerable population over the proposed life time of the project. Nor did the document include information on other important characteristics of the population such as socioeconomic status. The narrow geographic scope also meant the exclusion of populations near the proposed operations at Texada Island in the assessment. Indeed while the draft EIA rightly included extensive documentation and analyses of sensitive plants, and non-human animal species that may potentially be impacted by the project, the same effort was not given to describing the human population that may potentially be impacted.

Information on potentially vulnerable populations impacted by the project should be included and could be accessed through government sources. This information is essential to determine population health risk based on those exposed.

- **Temporal boundary**

The draft EIA states that this project has a life span of six years. At the same time however, the draft EIA also states that the FSD facility improvements will not be decommissioned after completion of the project. In addition, the planned expansion work at the Port Authority Rail Yard (PARY) is for accommodating two unit trains at a time. The draft EIA states: “the current capacity at the PARY is one unit coal train at a time, based on its capability to receive, stage, and depart trains.” Even at the proposed maximum capacity for this project, there will be only one unit train a day arriving at FSD. The current project should not require tracks to accommodate two unit trains at a time. It is therefore unclear whether continuation and further expansion of the project beyond six years are being contemplated, or whether the capacity for one additional unit train is intended as temporary coal storage in lieu of the original emergency coal storage stockpile that was deleted from the revised proposal. Clarification of intent is critical. It is not appropriate for example to be limiting the EIA to consider only six years of operation and at the stated volume if the ultimate goal is to expand beyond six years and or current volume.

2. Air Quality

- **Coal dust**

We acknowledge that a number of positive changes have been proposed with respect to coal dust mitigation: elimination of the emergency storage stockpile, additional use of sealants during transit on the incoming coal trains, and the addition of sealant during transfer and

loading onto the barges. The proposed dust mitigation strategies will now rely much on the use of sealants, and load profiling. Neither data nor references are given in the draft EIA to support the efficiency claims for these strategies. They could be as efficient as claimed, but as written, it would appear the authors of the draft EIA simply took the values provided by the project proponent / product manufacturer without any effort to seek independent validation.

With respect to the health effects from coal dust, the WHO International Agency for Research on Cancer (IARC) recently announced the inclusion of outdoor air pollution in general as a Group 1 carcinogen. In making its decision IARC included both anthropogenic and natural sources of air pollution. (<http://www.thelancet.com/journals/lanonc/article/PIIS1470-2045%2813%2970487-X/fulltext>, http://www.iarc.fr/en/media-centre/pr/2013/pdfs/pr221_E.pdf) The Health Effects Institute also recently published its review on particulate (PM) air pollution. While the review found stronger evidence for the health effects from certain types of particulates, “the review panel concluded, however, that the studies do not provide compelling evidence that any specific source, component, or size class of PM may be excluded as a possible contributor to PM toxicity.” (<http://www.healtheffects.org/Pubs/NPACT-ExecutiveSummary.pdf>) In other words, coal dust will contribute to the total toxicity from outdoor air pollution when it is present. Dr Ritter’s comments with respect to the 1997 IARC monograph on coal should be considered in light of these recent scientific developments.

We note in the draft EIA mention of the use of a ten fold (10 X) factor for transforming occupational health limits to sensitive populations such as children and the elderly (pages 121, 124). The document goes on to intimate that this is a common and accepted practice. We request the document author to supply references from published literature to support this assumption specifically for coal dust.

A brief summary on the type and composition of the coal to be shipped is provided in the draft EIA. The description, unfortunately, does not contain information regarding mercury, lead, arsenic, and other possible contaminants as requested by Dr. Van Buynder in his May 27 letter. This could be important information for assessing the potential impacts on food grown by residents and farms along the railway track leading to the FSD site

Much was mentioned in the draft EIA and in the appendices on the 1986 ESL study on coal dust at Agassiz BC. This study is more than 25 years old. Air quality instrumentation and measurement protocols have advanced considerably since. It is unknown whether the older instruments and measurement protocols in 1986 would have under or over estimated the actual levels. More recent data do exist and would have been helpful to include them. In addition, averaging the particulate concentration over 24 hours will mask any shorter term concentration levels that may have short term health effects.

The revised plan has deleted the emergency coal storage stockpile. The revised plan however considers the possibility of loaded barges staying at the dockside in the event of high winds (> 40 km/hr) as a way of reducing the risk of blown dust during passage to Texada Island. In effect, during these weather events these barges would be providing a function similar to the original emergency stockpile. Although the dispersion modeling included loaded barges at dockside as a source of emission, it is unclear whether the modeling considered severe wind events when the barges may stay at dockside much longer than during normal operations. It would be important to determine the possible frequency of such events and to

model the impacts to air quality when the loaded barges stay at dockside for extended periods of time.

- **Diesel emissions**

The assessment of health impacts in the report focuses primarily on coal dust, with little consideration of the increase in diesel emissions from trains, barges, trucks and idling vehicles at railway crossings. Given that diesel emissions are associated with many acute and chronic health impacts, and are a known carcinogen, this is a significant deficiency of the report. We find this surprising because Levelton, in 2007, completed the “Air Toxics Emissions Inventory and Health Risk Assessment – Summary Report ” on behalf of Metro Vancouver.

(http://www.metrovancouver.org/about/publications/Publications/Air_Toxics_Emission.pdf)

This report estimated about 350 cancers per one million population over a 70 year lifespan from diesel emissions in the Metro Vancouver region. Levelton could use this model to estimate the cumulative effects from the added diesel emissions from this proposed project for the potentially affected populations.

- **Dispersion modeling**

We defer the detailed review of the dispersion model to Metro Vancouver staff. Much of the EIA conclusions on the health effects from air emissions from this project are dependent on the validity of the dispersion modeling, and the interpretation of the intent of the Ambient Air Quality Objectives (AAQO). The BC Government has this to say regarding the use of the AAQO: “As even low levels of air pollution can affect some individuals, air quality objectives should not be viewed as levels we can “pollute up to,” but levels to stay well below.”

(<http://www.bcairquality.ca/regulatory/air-objectives-standards.html>) Moreover, in setting the AAQO, the BC Government considers other factors besides health evidence. The final AAQO is an integration of “information from the risk assessment with economic and technical factors as well as ethical, social, legal, ecological and achievability considerations”.

(<http://www.bcairquality.ca/reports/pdfs/ago-framework-information-sheet.pdf>) Furthermore, the AAQO is only meant as a guide for decision making.

(<http://www.bcairquality.ca/regulatory/air-objectives-standards.html>). It is therefore inappropriate for this EIA document to use the AAQO as the definitive criteria to characterize the level of health effects from the air quality predictions.

We have already mentioned above that there is a lack of information in the EIA regarding the efficiency of the dust sealants and other coal dust mitigation strategies, and therefore it is impossible for us to determine whether the emission factors used for the model are correct. We have also noted that the time and spatial domains chosen for the model will influence whether the model will be able to assess any possible short term health effects. While using the 24 hours and annual averages will allow comparison to existing air quality objectives over a wide area, they are not as useful for assessing short term local impacts. In addition, there is no known threshold below which particulate air pollution have no health effects. There are health effects even at the current air quality objectives. Concentration response functions are available to assess health effects at different levels of different air pollutants. It is much more informative to derive estimates of additional health effects directly from a validated model as opposed to simply commenting on whether the existing air quality objectives will be exceeded.

- **South Fraser Health Region 1998 Letter**

The draft EIA included a 1998 letter to the Corporation of Delta from Dr Robert Strang, then Associate Medical Health Officer, South Fraser Health Region. The letter was in response to concerns regarding dust originating from Westshore Terminals affecting the health of Delta residents – in particular Tsawwassen children. The letter presented data on respiratory illness and asthma related hospitalization and deaths, comparing different areas in the former South Fraser Health Region and elsewhere in BC. The spatial unit of analysis used was the Local Health Area (LHA), which is equivalent geographically to the local school district. The letter concluded that the information available did not point to concerns about higher levels of asthma or respiratory disease in Delta compared to other areas in the South Fraser Health Region or the province. LHA 37 is equivalent in size and geographic location as the Delta School District (SD 37). LHA 37 is a large geographic area, and includes three town centers (Tsawwassen, Ladner, and North Delta), with even the closest of them (Tsawwassen) still some distance away from the Westshore Terminals. If there were any health effects associated with dust exposure for the smaller number of people who lived closer to the coal port or along the railway tracks that served the port, the signals would have been drowned out by the health experiences of the large population centers. As well, the analysis did not adjust for socioeconomic status, smoking status or other potential confounders when comparing the different LHAs. The geographic location of Tsawwassen in relation to Westshore Terminals is also different from the geographic relationship between FSD and its neighboring residential areas. Dr. Strang provided no conclusion in his letter about whether or not populations living in close proximity to coal dust transport and handling had suffered undue health effects, nor was the analyses included appropriate to answer that question. It is not appropriate to use the letter as evidence for assessing health effects for the FSD project.

- **Air Quality Monitoring**

Dr Van Buynder in his May 27 letter emphasized the need for adequate air quality monitoring to verify the dispersion modeling results should the project proceed. It is not clear reading the draft EIA whether the entire monitoring proposal in Levelton's May 2013 draft Air Quality Management Plan is to be carried forward. Even if it does, the single air quality monitor station proposed outside of the FSD site is not adequate. Additional air quality monitoring at strategic locations on the rail corridor are needed to resolve issues including coal dust falls, train diesel emissions, and motor vehicle emissions at rail crossings given the increased wait times. Also in the earlier May 2013 draft Air Quality Management Plan barge based monitoring for particulates was proposed. Again, it is unclear in the draft EIA whether this is still the case.

3. Emergency Vehicle Access

The draft EIA suggests that the current arrangements for ensuring timely access across rail crossings for emergency vehicles are adequate. Without additional information, we remain concerned. We recommend that the proponent asks BC Ambulance Service, the Surrey and Delta Fire Departments and other appropriate first responders to review the proposal for adequacy with respect to emergency response access.

4. Recreation, Livability, Amenities

The impact of dust falls from passing coal trains on neighborhood livability is not addressed in the draft EIA. Complaints of coal dust soiling windows, covering outdoor structures have been recorded from residents living close to railway tracks in other locations such as was in Agassiz. (The Canadian Council of Ministers of the Environment. "*A Study of Fugitive Coal*

Dust Emissions In Canada". 2001) The dispersion modeling presented in the EIA is not useful for predicting dust fouling of outdoor living spaces in residential areas and in recreational amenities such as trails that run parallel to segments of the BNSF tracks. There is also no information on the increased potential for injury to the public at rail crossings. Neither baseline injury data nor possible future impacts are presented.

The EIA described some general strategies that the project will be using to mitigate noise impact. In order to ensure that these strategies will work, baseline noise measurements and ongoing noise monitoring during both the construction and operation phases of the project are needed

5. Public Engagement

Information contained in the draft EIA and its appendices do not permit an assessment on the adequacy of the public engagement process. Written public comments were summarized, but no attempt was made to map the public feedback, including feedback at public meetings, to the draft EIA so that reviewers can tell how the concerns were addressed. Importantly, there was no information with respect to actions or decisions by local government following presentations from FSD to the mayors and councils. We remind Port Metro that the Board of Directors of Metro Vancouver has called for a health impact assessment of the project, and that two Lower Mainland municipalities have recently passed motions banning coal from municipal lands. These decisions are important context that was not noted amongst the public feedback. Nor was recent correspondence from the Fraser and Vancouver Coastal Chief Medical Health Officers found in the appendices, even though a letter from an Associate Medical Health Officer written some 15 years ago was included.

A noise complaint response process for the FSD site of the project is described in the draft EIA. An air quality complaint tracking system for the FSD site is included in the May 2013 draft Air Quality Management Plan. There is a need for a coordinated complaint response system for this project that covers concerns arising from both within and without the FSD site. It is unclear whether such is being planned. The absence of coordinated and timely response to complaints will frustrate the public and potentially lead to unnecessary escalation of concerns.

In summary, we were pleased that Port Metro Vancouver requested a more comprehensive impact assessment for this direct transfer coal facility project. Unfortunately, this draft EIA fell well short of adequately addressing the human health impacts of the proposal. We, as the Medical Health Officers responsible for protecting the public health in the regions impacted by the project are being asked by the public and the local governments whether this project will have health impacts. Regrettably we are no closer to answering this question, even having reviewed the draft EIA. In our letter of September 25, 2013 we requested that health authorities be provided with an opportunity to assist in the scoping of the EIA. This offer still stands and we once again urge the project proponents (FSD and its business partners in this project) to conduct a health impact assessment that includes all of the project components from the U.S.-Canada border to Texada Island.

Health Impact Assessments are designed to minimize the negative and maximize the positive impacts of large projects. We believe it is the most appropriate and socially responsible approach for the proponents to address our concerns and those of the public.

Sincerely,



Paul Van Buynder, MBBS, MPH, FAFPHM Chief Medical Health Officer and Program Medical Director, Public Health Fraser Health Authority	Patricia Daly MD, FRCPC Chief Medical Health Officer and Vice-President, Public Health Vancouver Coastal Health
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CC: Dr. Perry Kendall, Provincial Health Officer
Roger Quan, Air Quality Policy & Management Division Manager, Metro Vancouver
Jurgen Franke, Director, Engineering and Maintenance, Fraser Surrey Docks –
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Attachments:

1. May 27 2013 letter from Dr. Van Buynder to PMV
2. September 25 2013 letter from Drs. Van Buynder and Daly to PMV