



POLICY REPORT ENVIRONMENT

Report Date: June 21, 2013
Contact: Sadhu Johnston
Contact No.: 604.873.7627
RTS No.: 10050
VanRIMS No.: 08-2000-20
Meeting Date: June 25, 2013

TO: Vancouver City Council

FROM: Deputy City Manager, City Manager's Office.

SUBJECT: The Prohibition of Coal Handling and Storage at Marine Terminals and Berths.

RECOMMENDATION

THAT, to prohibit the handling, storage and trans-shipment of coal at Marine Terminals and Berths, the General Manager of Planning and Development Services be instructed to make application to amend Section 10 of the Zoning and Development By-law, generally as presented in Appendix A, and that the application be referred to a Public Hearing;

FURTHER THAT the Director of Legal Services be instructed to prepare the necessary amending by-law, generally in accordance with appendix A, for consideration at the Public Hearing.

REPORT SUMMARY

This report discusses proposed revisions to the Zoning and Development By-Law to prohibit the bulk storage, handling and the trans-shipment of coal from Marine Terminals and Berths. The recommendation is made to reduce the impact of coal shipping within the city, to act in the best interests of public health and to support the attainment of the Greenest City Action Plan.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

October 2009:
Council received the Greenest City Action Team 2020 report and asked for a report back on practical implementation steps to meet the established targets, which included targets on air quality.

May 2010:

Council enacted the Greenhouse Gas Emissions Reduction Official Development Plan which contains targets on air quality.

January 2011:

Council adopted the various Greenest City 2020 goals, including those on air quality.

July 2011:

Council adopted the Greenest City 2020 Action Plan, which set the air quality target to “breathe the cleanest air of any major city in the world”.

December 2012:

Council requested of Port Metro Vancouver that the decision on the Fraser Surrey Docks Direct Coal Transfer Facility and Neptune Terminal expansion be delayed to assure ample and meaningful public consultation.

March 2013:

Council directed staff to “report back on a bylaw to prevent the expansion of, or creation of new, coal export infrastructure within the City of Vancouver”.

CITY MANAGER'S/GENERAL MANAGER'S COMMENTS

The Deputy City Manager recommends approval of the foregoing.

REPORT

Background/Context

There are two types of coal: thermal coal, used for power generation, and metallurgical coal used to make steel. The health implications of coal not only come from the emissions generated when it is burned, but also from the coal dust blown from stored coal or when coal is transported and handled. Coal dust is known to cause both acute and chronic respiratory health problems.

British Columbia's largest single export commodity is coal, with 10 of Canada's 24 coal mines located in B.C. The vast majority of Canada's coal exports, as well as those from the Northern US, rely on BC ports to get to market.

Domestic and US coal are transported to B.C. ports in Prince Rupert and Metro Vancouver by rail through the Skeena Valley, Columbia Valley and Fraser Valley. Metro Vancouver has coal export facilities at the Neptune terminal in North Vancouver and the Westshore terminal at Roberts Bank, Delta. Current B.C. coal handling tonnages are shown in Table 1 and are put in the context of total North American West Coast exports, the values in the final column show that B.C. accounts for 90% of North American Western seaboard exports.

Port of Call	Annual B.C. Coal Exports (metric tonnes)	Fraction of Total North American West Coast Exports
Robert's Bank, Delta	24,700,000	54%
Neptune, Burrard Inlet, North Van.	8,000,000	18%
Ridley, Prince Rupert	8,300,000	18%
TOTAL	41,000,000	90%

Table 1 Western Canada Coal Exports in the Context of Total North American Western Seaboard Exports

Port Metro Vancouver has the regulatory authority to approve developments within its boundaries, and any such development, if required by the Air Quality Management By-Law, must apply for an Air Quality Permit from the District Director of Metro Vancouver.

There are a number of applications currently before Port Metro Vancouver and Metro Vancouver to expand coal exports from existing facilities and/or to commence new coal exports from existing facilities that do not currently handle coal. If approved these applications would increase the approved capacity by an additional 18 million tonnes of coal moving through the ports, an increase of approximately 55% regionally, or 44% provincially, on the current activities.

The proposed expansion at the Neptune facility in North Vancouver was approved by Port Metro Vancouver in January 2013, but is currently under review by the Metro Vancouver District Director. The proposed new handling capacity for Fraser Surrey Docks is under review by both Port Metro Vancouver and Metro Vancouver.

Metro Vancouver has not currently issued information on when the District Director may make a decision on the received applications (Neptune and Fraser Surrey), but on June 14th, 2013 the Metro Vancouver Board voted to write to Port Metro Vancouver to express opposition to coal shipments from the Fraser River Estuary (excluding the existing Roberts Bank coal port activities). Appendix B contains the approved recommendations from Metro Vancouver. Metro Vancouver has also voted to request detailed information on the Port's review processes for permit applications for the Neptune Terminals and Fraser Surrey Docks facilities. Furthermore, the Metro Board has voted to request, in writing, a formalized procedure in the referral of project review processes between Port Metro Vancouver and Metro Vancouver.

The Metro board has also voted to write to Port Metro Vancouver to advise of their support for the inclusion of a health impact assessment (HIA) in the review of expanded and new coal handling infrastructure, as suggested by Vancouver Coastal Health (Appendix C contains the June 13th, 2013 Vancouver Coastal Health letter to Metro Vancouver).

Under the *BC Public Health Act*, a Health Impact Assessment can be requested by the Medical Officer of Health. Only the provincial Medical Health Officer (under the *BC*

Public Health Act), the Federal Ministry of the Environment or Transport Canada can mandate that a Health Impact Assessment be done.

The Chief Medical Health Officer, Dr. Patricia Daly, of the Vancouver Coastal Health Authority has requested that Port Metro Vancouver undertake a full Health Impact Assessment for any proposal to expand coal shipments (Appendix B). At this time Port Metro has not agreed to do this.

The District Director at Metro Vancouver can require an Air Quality Impact Assessment for facilities and their immediate surroundings, as part of the process to assess an Air Quality Permit application. The District Director would look to the Health Authorities and the Chief Medical Health Officers for guidance on the health impacts related to air quality impacts. The District Director has not yet indicated whether he will require an Air Quality Impact Assessment. Until such assessments are complete the true implications of increased or new coal handling cannot be assessed.

A 2013 report from Multnomah County Health Department¹, in Portland Oregon, states that their “analysis drew upon the available literature to estimate that coal dust may travel approximately 500 m to 2 km (1/3 to 1 1/4 miles) from the train tracks, depending on weather conditions and train speed”.

Within Metro Vancouver, there are currently (as of 2011) about 150,000 people living within 500m of existing coal handling rail routes or routes that may start to handle coal as a result of increased exports. A preliminary analysis, based on population data, suggests that there are about 26,500 people within 500m (or three city blocks) of the rail routes that could potentially transport coal within the City of Vancouver.

To limit the local effects of coal dust when coal is handled at port facilities the Metro Vancouver Board has voted to request that Port Metro Vancouver, Transport Canada and Environment Canada require the necessary mitigation measures and monitoring to address emission sources that are not within the jurisdiction of Metro Vancouver. These measures may include, but are not limited to, specifically designed enclosures, air handling systems and air filters.

Strategic Analysis

The M-2, IC-1, IC-2, I-2, I-3, CWD, and several CD-1 zones currently allow Marine Terminal or Berth as an approved use. "Marine Terminal or Berth" is defined in the Zoning and Development By-law to mean:

“the use of premises for the mooring of boats, ships, float planes, ferries and other water vessels, but not including pleasure craft, for the land or water trans-shipment of goods or transfer of passengers, for the operations of a water taxi service, piloting service, boat rental or charter service, or for related marine services including stevedoring, salvaging, dredging or diving.”

¹ The Human Health Effects of Rail Transport of Coal Through Multnomah County, Oregon: A Health Analysis and Recommendations for Further Action, Multnomah County Health Department, February 2013

The current by-laws governing the Marine Terminal or Berth use (M-2, IC-1, IC-2, I-2, I-3, CWD, and several CD-1 zones as shown in figure 1) are inconsistent. Products that can be stored and handled as part of this use vary from zone to zone. Bulk storage of “coal products” and “tar products” is not permitted in some zones while bulk storage of “coal tar products” is not permitted in others. Coal storage and handling is currently permitted in all of the zones. The proposed amendment would prohibit bulk storage and handling of coal and not just “coal products” or “coal tar products” in all of the zones.

In view of the lack of a Health Impact Assessment which provides Council with reassurance of the safety of a coal handling facility and the overall goals of the Greenest City Action Plan which has a major objective to reduce greenhouse gases, consistent prohibition of the use of a Marine Terminal or Berth for the handling and storage of coal across all M-2, IC-1, IC-2, I-2, I-3, CWD and affected CD-1 zones, would require amendment of Section 10 General Regulations of the Zoning and Development By-law.

The proposed amendment would not apply to federal Crown lands, or lands governed by Port Metro Vancouver which are outside the legal jurisdiction of the City in the area of land use regulation. The proposed amendment would prohibit the handling, storage, and trans-shipment of coal as part of a Marine Terminal or Berth use on lands within the jurisdiction of the City. The impact would be to reduce the handling of coal and the transportation of coal to such lands.

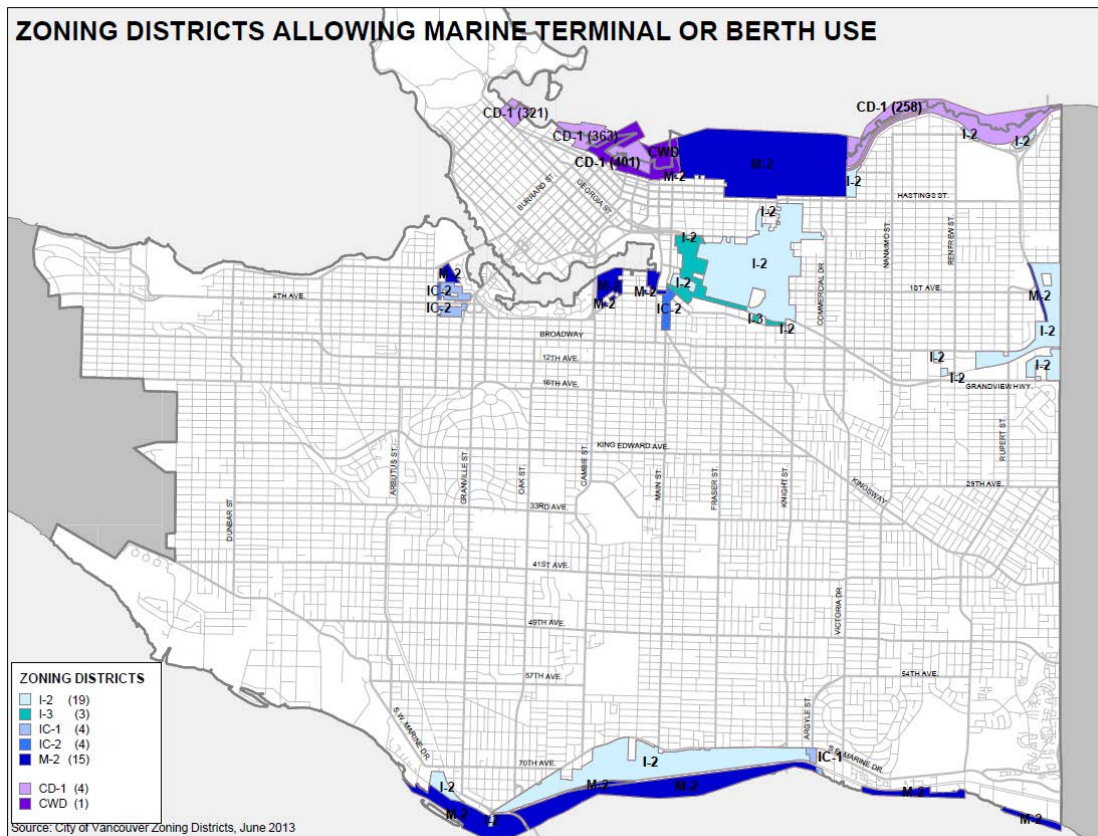


Figure 1 Map of Zones Affected by Proposed By-Law Amendment

Implications/Related Issues/Risk (if applicable)

Financial

There are no direct financial implications to the City of Vancouver.

Environmental

The proposed amendment is in support of air quality goals of the Greenest City Action Plan. The policy amendment would take a significant step to reducing the adverse respiratory health impacts of coal dust.

CONCLUSION

The proposed amendment to the Zoning and Development By-law will prohibit the storage and handling of coal in a Marine Terminal or Berth across all M-2, IC-1, IC-2, I-2, I-3, CWD and affected CD-1 zones, regulated by the city. This is proposed to diminish negative health impacts and support the Greenest City Action Plan.

* * * * *

Appendix A

The proposed By-Law Amendment is as follows.

Zoning & Development By-law
Amendments re: Marine Terminals

BY-LAW NO. _____

A By-law to amend

Zoning and Development By-law No. 3575

regarding Marine Terminals

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. This By-law amends or adds to the indicated provisions of the Zoning and Development By-law.
2. In Section 10, at the end, Council adds a new section 10.38, which states:

“ 10.38 Marine Terminal or Berth

10.38.1 A marine terminal or berth must not be used for the bulk storage and handling and trans-shipment of coal.”

3. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of the By-law.
4. This By-law is to come into force and take effect on the date of its enactment.

ENACTED by Council this _____ day
of _____, 2013

Mayor

City Clerk

Appendix B

GREATER VANCOUVER REGIONAL DISTRICT (GVRD) REGULAR BOARD MEETING

Friday, June 14, 2013

9:00 A.M.

2nd Floor Boardroom, 4330 Kingsway, Burnaby, British Columbia

A G E N D A

Item E.1

Note: The following item was deferred from the May 24, 2013 Board meeting. A staff presentation will be made.

Subject: Air Quality Impacts of New and Expanded Coal Shipment Activity in Metro Vancouver

ENVIRONMENT AND PARKS RECOMMENDATIONS

1) That the Board write to Port Metro Vancouver to:

- a. request detailed information on their review processes for permit applications for expanded and new coal handling infrastructure at Neptune Terminals and Fraser Surrey Docks respectively, and request a formalized procedure in the referral of project review processes between Port Metro Vancouver and Metro Vancouver;
- b. advise of their support for the inclusion of health impact assessment in the review of expanded and new coal handling infrastructure, as suggested by the Vancouver Coastal Health and Fraser Health authorities; and
- c. express opposition to coal shipments from the Fraser River Estuary other than the existing Roberts Bank coal port.

2) That the Board request Port Metro Vancouver, Transport Canada and Environment Canada require the necessary mitigation measures and monitoring to address emission sources that are not within the jurisdiction of Metro Vancouver.

Appendix C



Office of the Chief
Medical Health Officer

#800-601 W. Broadway
Vancouver, BC V5Z 4C2

June 13, 2013

Directors, GVRD Board
Vancouver Coastal Health Municipalities

Dear Director,

**Re: Air Quality Impacts of New and Expanded Coal Shipment Activity in Metro Vancouver;
Agenda Item 1.1, GVRD Board Meeting, Friday June 14, 2013**

I write to you as the Vancouver Coastal Health (VCH) Chief Medical Health Officer, under my required activity to protect the public as set out in the BC Public Health Act. I wish to make my position on this agenda item clear to GVRD Directors who represent municipalities served by VCH.

I support the recommendations to the Board from the Environment and Parks Committee, including that the Board write to Port Metro Vancouver advising of their support for the inclusion of health impact assessment in the review of expanded and new coal handling infrastructure in Metro Vancouver ports, including projects at Neptune Terminals and Fraser Surrey Docks. Dr. Paul Van Buynder (Chief Medical Health Officer, Fraser Health) and I have jointly asked Port Metro Vancouver to include the requirement for health impact assessment in these projects. We believe it is extremely important in addressing questions from both the public and municipalities about potential population health impacts of expanded coal transport and shipment in Metro Vancouver.

As Medical Health Officers, we understand that increased economic activity involving the creation of new jobs and thus the generation of municipal revenue to aid the financing of other community resources generally has a positive impact on the health of a community.

However, the regular inhalation of coal dust can be deleterious to health. At the level of higher work place exposures this can lead to the development of anthracite lung, coalminer's pneumoconiosis, emphysema and various other obstructive airway diseases. Even at lower levels coal dust can be associated with significant respiratory and cardiovascular disease and data exists to suggest that this can also have an adverse impact on pregnancy outcomes. In addition, expanded coal shipment, and the associated rail and barge transport, could have other population health impacts in addition to those related to air quality. Therefore, questions from the public about whether the potential harms from exposure to coal dust and the transport of coal outweigh the benefits of increased economic activity are legitimate; a health impact assessment is the best tool for evaluating these issues.

Dr. Van Buynder and I, along with several of our staff, have met with Port Metro Vancouver and received information from them pertaining to the Fraser Surrey Docks (FSD) proposal. However, we have indicated that this information is insufficient for a proper assessment of potential health concerns, and a proper health impact assessment (HIA) is still necessary for this project and other projects



Office of the Chief
Medical Health Officer

#800-601 W. Broadway
Vancouver, BC V5Z 4C2

involving expanded coal shipment. The following summarizes some of the gaps in information for the FSD proposal:

FSD Site and Currently Available Information

- The coal dust dispersion modeling provided is deficient in its description. The sources included in the modeling, the assumptions made, and the durations expected are not clearly articulated and it appears that not all of the handling issues have been identified. We are particularly concerned about the lack of information with regard to the “during transport emissions on the barges”. During barge movement, only some of the barges will have dust suppression with water, no surfactant is in use, and no appropriate verification is planned. Uncertainty also exists with regard to the use of the “small” coal stockpile at the FSD site, listed as being over two acres in size, and the potential emissions from this source during adverse weather conditions.
- We are hopeful that these emission concerns will be addressed by the Metro Vancouver permitting process and have urged Metro Vancouver to address all local airshed issues at this time and not just the footprint within the FSD site.

While barge movement and other non FSD site activity is not regarded as the purview of Port Metro Vancouver, we and the public are particularly intolerant of piecemeal approaches to considerations of public health aspects of major projects, and believe that a full assessment that includes these concerns is required.

It is probable that enhanced dispersion modeling and assessment of activity at the site and nearby will confirm that likely impacts will meet current regional air quality guidelines and objectives for particulates and other contaminants. While dispersion modeling may be reassuring, we note considerable community concern with regard to the project and recommend to Metro Vancouver and Port Metro Vancouver that any permitting should include substantial requirements for verification of modeling results and subsequent mitigation measures as necessary.

- This verification should include continual air quality monitoring at a number of sensitive sites for not just the total suspended particles suggested but also PM10 and PM2.5 monitoring;
- This verification activity should be associated with enforceable mitigation strategies. If available information, when activity commences, suggests that the modeling was inaccurate and a health risk exists, a decrease in activity and enhanced mitigation should automatically flow;
- The verification process will aid the resolution of community concerns as they relate to direct health impacts;
- The verification data should be publically available.

Coal Train Activity and the Role of Burlington Northern Sante Fe (BNSF) Railway

Promoting wellness. Ensuring care. Vancouver Coastal Health Authority



Office of the Chief
Medical Health Officer

#800-601 W. Broadway
Vancouver, BC V5Z 4C2

While the Port's permitting process for FSD does not involve consideration of the BNSF activity and the coal train activity through White Rock and other residential areas, we believe this must be taken into consideration during any approvals process.

The information provided by BNSF is totally lacking in its capacity to provide reassurance to us and to the potentially affected public. Commentary with regard to "85% reduction", a "lack of complaints", the "benefits of surfactants" and so on, fail to quantify the direct impact of the fugitive coal dust emissions from the rail cars.

Commentary with regard to other aspects of concern, such as BNSF "has a policy of giving priority to emergency vehicles" in no way identifies how they would stop a train or allow an ambulance to pass during the 15 minutes a coal train transits some of the rail crossings.

As Chief Medical Health Officer I have requested that a full health impact assessment (HIA) be undertaken for projects that involve the expansion of coal shipments, that the inputs to the HIA should include the revised enhanced dispersion modeling noted above, but also as a minimum include consideration of the following aspects:

- The inhalation of airborne dust and its potential short and long term health impacts on respiratory illnesses and lung functions of residents along the rail runs and near the ship yard;
- Clarification of the constituents of the coal types to be transported and the provision of the full description of the chemical composition of the coal. An assessment of the ingestion and or inhalation of lead, mercury and arsenic from air, land contamination, consumption of food grown on this land and shell fish harvested from contaminated waters.;
- An assessment of the air quality implications of the diesel exhaust generated by train and ship diesel engines used to transport coal and from heavy equipment used at the port facility;
- The impact on air quality of idling trains and berthed marine vessels, as well as motor vehicle idling caused by the trains and ships. It is noted that this project will substantially increase train traffic and cause automobile traffic delays at train crossings. The idling vehicle emissions include volatile organic compounds, carbon monoxide, nitrogen oxide and particulate matter;
- The likely impact of excessive noise associated with the increased activity;
- The impact of the increased railway traffic on access to emergency care;
- The potential impact of train derailment on emergency medical services on the trauma system;
- The potential impact of railway traffic to pedestrian safety;
- The potential impact of railway traffic on the enjoyment and participation of recreational activities in urban and rural areas along the railway path and in areas near the transport station;



Office of the Chief
Medical Health Officer

#800-601 W. Broadway
Vancouver, BC V5Z 4C2

- An overall consideration of community wellness as part of the linking of the built environment to population health outcomes.

Dr. Van Buynder and I have recommended that the proponents of these projects be required to undertake the HIA, that the terms of reference of the HIA be agreed to with us prior to its commencement and that the independent contractors employed to undertake the activity be approved by us prior to the commencement of the review.

We have also recommended that verification processes be built in to the HIA and that non-compliance has meaningful consequences in the permit approvals. Meaningful community consultation will be a critical component of the acceptability of the outcome of the health impact assessment.

In summary, it is my view that a health impact assessment is necessary for proposals involving expanded coal shipment in Metro Vancouver. It is not clear at this point whether the proponents will agree to performing a health impact assessment. I would welcome anything you can do in your role as municipal leaders and GVRD Directors to make public protection a transparent process.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Patricia Daly", is written over a light blue circular stamp.

Patricia Daly MD, FRCPC
Chief Medical Health Officer and Vice-President, Public Health
Vancouver Coastal Health

- cc. Dr. Paul Van Buynder, Chief Medical Health Officer and Vice-President, Public Health, Fraser Health
Dr. Brian O'Connor, Medical Health Officer, Vancouver Coastal Health
Dr. James Lu, Medical Health Officer, Vancouver Coastal Health
Dr. Perry Kendall, BC Provincial Health Officer
Roger Quan, Metro Vancouver