



## City of Richmond

## Report to Committee

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**To:** Community Safety Committee  
**From:** Suzanne Bycraft  
Manager, Emergency & Environmental Programs  
**Date:** February 27, 2004  
**File:** 6175-01  
**Re:** Marine Emissions in Greater Vancouver Area Waterways

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### Staff Recommendation

1. That a letter be written to the Honourable Tony Valeri, Minister of Transport advising of Council's position that:
  - The federal government accelerate its efforts and adopt the International Maritime Organization (IMO) sewage and air discharge standards for large commercial ocean-going vessels.
2. That copies of these letters be sent to Honourable David Anderson, Minister of Environment, to Honourable Geoff Regan, Minister of Fisheries and Oceans and to the Greater Vancouver Regional District (GVRD).

Suzanne Bycraft  
Manager, Emergency & Environmental Programs

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CONCURRENCE OF GENERAL MANAGER

## Staff Report

### Origin

Richmond City Council received a letter dated December 11, 2003 from the Greater Vancouver Regional District (GVRD) requesting support from Council in urging the Federal Government to:

1. Adopt the International Maritime Organization (IMO) discharge standards for sewage and air emissions for commercial passenger vessels within regulations under the Canada Shipping Act.
2. Provide an update on the status of the request by the GVRD and City of Vancouver for designation of Indian Arm and English Bay/False Creek as no-discharge zones under the federal Pleasure Craft Sewage Pollution Prevention Regulation.

A copy of the letter is provided in Attachment 1. The City of Richmond has received copies of letters of support from the Village of Belcarra and the City of Coquitlam (Attachment 2). The GVRD has also received letters of support from the City of Port Moody, the City of North Vancouver and the City of Abbotsford.

### Analysis

#### International Marine Organization (IMO)

The International Maritime Organization (IMO) is an agency of the United Nations which was initiated in 1958 to strengthen international shipping safety and prevent marine pollution. There are 163 member states in the IMO, including Canada. The Department of Transport Canada is the lead Canadian agency.

The IMO develops conventions and standards which are then adopted and implemented by member states through domestic legislation. One of the major conventions developed by the IMO is the International Convention for the Prevention of Pollution from Ships. Canada has already adopted three annexes under this convention which aim to minimize pollution from oil, noxious liquid substance and packaged goods. Presently, the IMO has developed two additional annexes to minimize pollution from sewage discharges and air emissions from commercial ocean-going vessels engaged in international travel (e.g., bulk container vessels, tankers, general cargo, cruise ships, etc.). Canada has not yet adopted these two annexes.

#### Air Emissions from Marine Vessels

##### *Level of Concern*

Recent studies conducted by the GVRD indicate that marine emissions are a significant source of air pollution in the region (GVRD 2002). Specifically, this research has found that marine emissions are our region's largest source of sulphur oxides (SO<sub>x</sub>), accounting for 65% of total

loading, and are a significant source of nitrogen oxide (NO<sub>x</sub>), accounting for 25% of total loading. These two pollutants are key contributors of smog and acid rain.

Over the next 20 years, the amounts of sulphur and nitrogen oxide emissions from marine vessels are expected to increase significantly in the Lower Fraser Valley (50% increase for nitrogen oxide emissions and 67% increase for sulphur dioxide) in the Lower Fraser Valley. This increase in emissions is expected as a result of the projected expansion of the Port of Vancouver and increases in ocean going traffic as well as because emission reduction measures planned for this sector are not as significant as for other major sectors such as on road vehicles (GVRD 2003).

#### *Current Canadian Standards*

Air emissions from marine vessels are regulated by the Federal Government in accordance with the Air Pollution Regulations under the Canada Shipping Act. These regulations set a maximum allowable density for smoke emissions within one mile of land. There are no regulated Canadian limits for sulphur in marine vessel diesel or nitrogen oxide emission from marine vessels. In contrast to federal marine vessel emissions standards, there are sulphur content restrictions for fuel use by on-road vehicles and regulations governing nitrogen oxide emissions in heavy-duty vehicles.

#### *IMO Standards*

The regulations developed by the IMO to address air emissions have established limits for allowable NO<sub>x</sub> emissions from diesel engines and for the amount of sulphur content allowed in fuels used by commercial ocean-going vessels. These IMO air emissions standards have been adopted by a total of 12 countries, including, Sweden, Germany, Denmark, Norway, Greece, Spain and Singapore. Transport Canada advised that industry concerns of potential cost implications have been a major factor in Canada for not adopting the standards. It is understood that the Federal Government is working with industry to develop an amenable implementation plan that would enable the adoption of the IMO standards. Unfortunately, no timeline has been set.

### Sewage Discharge from Marine Vessels

#### *Current Standards*

In Canada, sewage discharge from commercial crafts in marine waters is regulated by the Commercial Sewage Pollution Prevention regulation. These regulations prohibit the discharge of

#### **Smog**

*Smog is created by airborne particulate matter and ground-level ozone. Both SO<sub>x</sub> and NO<sub>x</sub> contribute to particulates in the air. NO<sub>x</sub> also reacts with other compounds to produce ground-level ozone. According to Environment Canada, every major Canadian urban centre has levels of ground-level ozone which pose health concerns. Ozone is also directly damaging to ecosystems and, as a powerful greenhouse gas, contributes to climate change.*

#### **Acid Rain**

*Acid rain is created when SO<sub>x</sub> and/or NO<sub>x</sub> react with water vapour in the air to form acidic compounds. Despite major progress in reducing emissions, Environment Canada states that latest scientific studies show that actions to-date are insufficient to protect Canadian lakes and forests.*

sewage in areas designated as no-discharge zones. No restrictions are applied to areas not identified as no-discharge areas. At present, there are not any areas within the GVRD that have been designated as no-discharge zones. Consequently, there are no restrictions for discharging sewage along shore of Richmond or other marine waterways in the GVRD.

In 1998, the GVRD and the City of Vancouver requested that Indian Arm and English Bay/False Creek be designated as “no-discharge” zones. No response has been provided to-date.

### *IMO Standards*

The IMO sewage discharge standards are much stricter than current Canadian regulations. The IMO standards require ships, of a certain size and engaged in international voyage, to be equipped with a certified sewage treatment system. The regulations also prohibit the discharge of sewage within 3 nautical miles from the nearest land and only permit the discharge of treated sewage within 3-12 miles of shore. These standards apply immediately to new ships and would require existing ships to comply within 5 years.

The sewage standards developed by the IMO have been adopted by 95 countries, including, the Russian Federation, Japan, United Kingdom, Italy, Poland, Chile, Argentina, Denmark, Norway, Finland, France and India. The Federal Government has been working on amending existing regulations with completion expected in 2006. These new regulations would have a 5-year phase in period for existing vessels. In the interim, Transport Canada is presently finalizing Voluntary Dumping Guidelines for Cruise Ships.

### **Recommended Action**

It is staff's recommendation that the City of Richmond support the GVRD request to urge the Federal Government to accelerate its efforts and adopt the IMO standards for international vessels. This recommendation is based on the following considerations:

- air emissions from marine vessels presently contribute significantly to air quality deterioration in our regional shared airshed and are projected to constitute a growing proportion of emission source in the future;
- there are currently no controls for regulating sewage discharge from commercial ocean-going vessels along Richmond's shore or other regionally shared waterways
- current Canadian standards for managing air emissions and sewage discharge from marine vessels engaged in international voyage are much less stringent than international standards and less stringent than domestic regulation regulating discharges in other sectors.

### **Financial Impact**

There is no direct cost to the City associated with this report.

## Conclusion

Current Canadian standards for managing air emissions and sewage discharges from commercial ocean-going vessels engaged in international voyage (e.g., tankers, cruise ships, bulk container ships, general cargo, etc.) are much less protective than international standards and less stringent than domestic regulations governing air and sewage discharges in other sectors. Current air pollution regulations solely address emission density and do not regulate emissions of specific air contaminants including those contributing to smog and acid rain. Marine vessel emissions, however, have been determined to constitute a significant and growing proportion of emissions which lead to “smog” formation in the regional airshed shared by the Richmond community. There are currently no prohibitions for preventing the discharge of sewage from marine vessels along Richmond’s shores or other regional shared marine waterways in the GVRD.

Considering that international marine traffic is projected to increase and that current levels are already significantly contributing to the pollutant loading to our local environment, this report recommends that the City of Richmond support the GVRD and urge the Federal Government to adopt the IMO international standards for regulating air emissions and sewage discharges from large commercial ocean-going vessels engaged in international voyage.



Margot Daykin, M.R.M  
Assistant Manager - Environmental Programs  
(4130)

MD:md

## References

Greater Vancouver Regional District. 2002. 2000 Emission Inventory for the Lower Fraser Valley Airshed. Policy and Planning Department, Greater Vancouver Regional District, Burnaby, B.C.

Greater Vancouver Regional District. 2003. Forecast and Backcast of the 2000 Emission Inventory for the Lower Fraser Valley Airshed 1985 –2025. Policy and Planning Department, Greater Vancouver Regional District, Burnaby, B.C.



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The GVRD Board requests that your municipality support the Board's position on this issue as the opportunities arise in your municipality.

Yours truly,



J. Marvin Hunt  
Chair, Board of Directors

JMH/EVE

- Attachments:
- 1) Letter to Minister of Transport dated December 8, 2003
  - 2) Letter to Fisheries and Oceans Canada dated December 8, 2003
  - 3) GVRD Board Report: Marine Emissions in Greater Vancouver Waterways, meeting of October 3, 2003







Should you have any questions about this resolution or require any further information please contact me at (604)927-3485.

Yours truly,



Lauren Hewson  
Committee Clerk

- C – Village of Belcarra
- Bowen Island Municipality
- City of Burnaby
- Corporation of Delta
- City of Langley
- Township of Langley
- Village of Lions Bay
- District of Maple Ridge
- City of New Westminster
- City of North Vancouver
- District of North Vancouver
- District of Pitt Meadows
- City of Port Coquitlam
- City of Port Moody
- City of Richmond
- City of Surrey
- City of Vancouver
- District of West Vancouver
- City of White Rock