



To: Community Safety Committee
From: Dave Semple
Director of Parks and Public Works
Operations

To Community Safety - June 12, 2007
Date: May 10, 2007
File: 10-6125-01

Re: Polybrominated Diphenyl Ethers (PBDE's)

Staff Recommendation

- 1. That Richmond City Council send a letter to the Federal Minister of Environment:
conveying support for the Federal Private Member's Motion M-38 calling for legislation to completely phase out the production and importation of products containing Polybrominated Diphenyl Ethers (PBDEs) as long as a safer alternative has been identified, and
advocating for a strengthened Canadian Toxic Chemical Management program.
2. That staff provide input to Environment Canada's current PBDE management strategy requesting that it incorporate:
a commitment to develop appropriate restrictions on the amount of PBDE applied to product and management strategies for addressing disposal and recycling of products or materials containing PBDEs; and,
a comparative risk assessment and identification of the most preferred products and techniques for reducing fire risk currently being addressed through use of PBDEs be undertaken, and commitment made to develop regulations to ban all non-preferred products.

Dave Semple
Director of Parks and Public Works Operations (3350)

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ROUTED TO: CONCURRENCE CONCURRENCE OF GENERAL MANAGER
Fire Rescue Y [checked] N []
Law Y [checked] N []
REVIEWED BY TAG YES [checked] NO [] REVIEWED BY CAO YES [checked] NO []

Staff Report

Origin

At Community Safety Meeting on December 12, 2006, a referral was made requesting that staff review Federal Private Member's Motion M-38 that asks the federal government to phase out the use, production and import of products containing Polybrominated Diphenyl Ethers (PBDEs).

This report responds to this referral and recommends that the City of Richmond support motion M-38 and provide specific comments to the Federal Government to strengthen Canada's current PBDE management strategy and overall toxic chemical management program.

Background

About PBDEs

Polybrominated diphenyl ethers (PBDEs) are a group of synthetic (i.e., human produced) chemicals which are used in large quantities as effective flame retardants in electrical equipment, plastics and polyurethane foam since the 1970s. PBDEs are not manufactured in Canada. They are imported into Canada as commercial mixtures for addition to various products, and imported through the importation of finished products. PBDEs are applied to a wide range of products including computers, television sets, mobile phones, upholstered furniture, appliances, carpets, automotive and aircraft seating and interiors, and nearly all electronics.

Concerns with PBDEs

There is growing evidence that PBDEs persist (i.e., last a long time) in the environment and accumulate (i.e., build-up) in living organisms. Environmental monitoring programs in North America, Europe, Asia and the Arctic have found traces of several PBDEs in human breast milk, fish, aquatic birds, and elsewhere in the environment and studies have found that levels in humans, food sources and other environmental media are increasing over time. There are no known natural sources of PBDEs.

PBDEs are potentially released throughout their lifecycle in a variety of ways, including from the chemicals themselves and during product use, manufacturing, and disposal. Given the life span of many products treated with PBDE and the length of time PBDE can itself remain in the environment, exposure to PBDEs can continue for decades after the production or sale of a product.

According to Health Canada, the main sources of PBDE exposure for humans are likely to be through food, human breast milk and dust. PBDEs are generally found in higher concentrations in fatty foods of animal origin such as fish, meats and dairy products. Health Canada advise that health risks can be minimized by:

- limiting consumption of fatty foods
- purchasing consumer products (e.g., electronics, upholstered furniture, etc.) that are free of PBDEs
- cleaning homes regularly to remove dust which can accumulate PBDEs.

Despite their widespread application, limited information exists evaluating potential effects to humans and the environment. Concerns exist, however, that based on the limited information available and structural similarities with other banned substances with known significant health risks (i.e., polychlorinated biphenyls -PCBs), that potential adverse health effects could include cancer, liver damage, thyroid hormone disruption and neurobehavioral toxicity.

A recent environmental assessment report conducted by Environment Canada determined that PBDEs are “entering the environment in a quantity or concentration or under conditions that have or may have an immediate or long-term harmful effect on the environment or its biological diversity”. A recent human health assessment report conducted by Health Canada found no evidence that current levels of PBDEs in the environment are harming human health but the rapid increase in PBDE levels is a cause of concern.

Availability of Alternatives

According to Environment Canada, chemical alternatives to PBDEs are available for the vast majority of industrial and manufacturing applications. However, some of these alternatives are under scrutiny themselves, are more costly and/or less effective. There are also alternative techniques that could be used which reduce the need for new chemical application. Examples include the use of materials that are less prone to fire hazard, use of barrier fabrics and design-for-environment (DFE) techniques which enable re-use and recycling of PBDE treated components.

Action Being Taken

Industry Action

Environment Canada reports that discussions with industry indicate that the use of the most toxic mixtures in Canada has been voluntarily phased-out and the amount of the third mixture being imported into Canada has decreased. Major companies such as Apple, Dell, Sony, Ikea and Xerox have voluntarily stopped using PBDEs.

Government Action in Other Jurisdictions

The European Union has banned the manufacturing or use of the two most toxic commercial mixtures and banned the sale of products containing more than 0.1% of these products. Some European countries are presently advocating for a complete ban on all PBDEs.

Several states, including California, Maine, Michigan, Washington¹, New York, Hawaii, Maryland and Illinois, have enacted or are considering legislation prohibiting PBDE use.

¹ It is noted that in Washington, efforts in support of the phasing out of PBDE is supported by state fire safety officials who cite concerns about protecting the health of fire fighters and the need to develop safer alternatives for fire prevention.

The two commercial mixtures banned in the European Union are also being considered for addition to international agreements, including the United Nations Stockholm Convention on Persistent Organic Pollutants (POPs).

Action Taken by Canadian Government

Within Canada, risks posed by toxic and other harmful substances are managed in accordance with the Canadian Environmental Protection Act (CEPA). As a result of the environmental assessment, PBDEs have been recently listed as a toxic substance under CEPA and as such the federal government is presently under obligation to develop a management strategy. At this time the government has developed and proposed regulations, entitled Polybrominated Diphenyl Ethers Regulations. These regulations:

- prohibit the manufacture of PBDEs in Canada
- restrict the use, sale, offer for sale and import of the two most toxic mixtures.

Environmental Canada is also exploring the following management action:

- regulations that would apply to products containing the two most toxic mixtures
- an approach to minimize release of the third mixture to the environment (restrictions on the use, sale, offer for sale and import of the third mixture is not being proposed)
- strategy for the management of products or materials containing PBDEs requiring disposal or recycling
- additional science and environmental monitoring
- continue to engage international partners to address PBDEs.

A Federal Private Member's Motion, M-38 was put before Parliament by MP Peter Julian, calling for legislation to completely phase out the production and import of products containing additive PBDEs.

Analysis

Effectiveness of Current Situation

PBDEs are considered to be a priority pollutant as defined by the federal government (e.g., are toxic, last a long time in the environment, and bio-accumulate). The federal government is proceeding with developing management strategies for PBDEs in accordance with CEPA. This approach provides a systematic evaluation framework by which to address prioritize substances. However, staff identify a number of key concerns with the current Canadian PBDE strategy:

- it does not meet the best practices adopted by other leading jurisdictions
- it is unlikely to make any significant reduction in reducing exposures²

² While there is intent to conduct further investigation, the regulations being proposed today solely restrict the use and importation of PBDE chemical mixtures but fails to enact specific action in other key management areas (e.g., products, disposal, recycling, alternative techniques, etc.). Since Canada imports a significant amount of finished products, it is unclear on how effective the proposed regulations will be in actually reducing exposures and releases of PBDEs to the environment.

- additional proposed measures for further strengthening the regulations are not expected to be developed in a timely manner³

Recommended Action:

Given that PBDEs are considered to be a priority pollutant and alternatives exist to their use, it is staff's recommendation that Council support a strengthened management approach provided that a safer alternative has been identified and supported by appropriate regulatory authorities. It is noted that under CEPA, there is a mechanism for establishing interim targets and schedules and the phasing out of chemicals in consideration of social, economic and technical factors.

In addition, given that Private Member motions tend to be tabled for discussion for extended periods of time, it also is recommended that the City of Richmond provide direct input to the current Federal PBDE management strategy. Specifically, it is recommended that Council requesting that the strategy incorporate:

- a comparative risk assessment and identification of the most preferred products and techniques for reducing fire risk currently being addressed through use of PBDEs, and commitment to develop regulations to ban all non-preferred products within the next 2 years;
- a commitment to develop appropriate restrictions on the amount of PBDE applied to products within the next year and management strategies for addressing disposal and recycling of products or materials containing PBDEs within the next three years.

It is also recommended that the City of Richmond express its general concern to the Government of Canada over the current status of chemical evaluation and management. As noted, there are over 23,000 chemical substances which are in use in Canada and have not been evaluated against current standards. There is also limited access to information at the point-of-sale to assist the general public in making informed choices. As such, it is staff's recommendation that Council convey its support for a strengthened toxic chemical management program by the Federal Government which better communicate risks to Canadians and better ensures that chemicals are being assessed comprehensively in a timely manner.

Financial Impact

There is no anticipated direct financial impact for the City of Richmond.

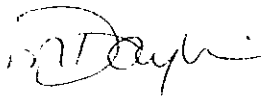
Conclusion

Polybrominated diphenyl ethers (PBDEs) are a group of chemicals manufactured by humans and used in large quantities as an effective flame retardant for a wide range of consumer products. While there are no natural sources of PBDEs, they have been detected throughout the

³ Concerns exists on the sheer volume of chemicals that need management focus by the Federal Government. Presently there are over 23,000 chemicals in use that have not been evaluated against current standards. There are also 58,000 chemicals that are being introduced as new chemicals that the government needs to address.

environment (air, biota, sediments, wildlife, etc.) and in humans. Concentrations in the northern hemisphere have been increasing exponentially.

A recent environmental assessment report conducted by Environment Canada determined that PBDEs are "entering the environment in a quantity or concentration or under conditions that have or may have an immediate or long-term harmful effect on the environment or its biological diversity". Accordingly, this report recommends that Richmond Council support the Private Member Motion M-38 which calls for legislation to completely phase out the production and importation of products containing PBDEs. Recommendations are also made on specific input to be provided to Environment Canada to strengthen the federal government's PBDE management strategy in the event that the Motion does not proceed through Parliament. Further recommendations are made with respect to strengthening the Federal Government's overall toxic chemical management program with respect to improving the communication of risks to Canadians and better ensuring that chemical evaluations are being undertaken in a timely manner.



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