Eastern Lake Ontario ENVIRONMENTAL RESEARCH GROUP

Richmond Landfill, MOH letter to the MoE, Jan 2005

from the Acting Medical Officer of Health, 2005

TRANSCRIBED FACSIMILE OF ORIGINAL LETTER
website posting December 27, 2005

Hastings-Prince Edward Health Unit
Belleville, Ontario

January 31, 2005

Hon. Leona Dombrowsky
Minister of the Environment
12th Floor 135 St. Clair Ave. W
Toronto, Ontario M4V 1 P5

Dear Minister Dombrowsky:

I have received an inquiry from a citizen regarding the proposed expansion of the Richmond landfall site to a 20 million tonne dump for municipal solid waste. To date the Hastings and Prince Edward Counties Health Unit has not addressed this issue. The project may have human health implications so I am pleased to have the opportunity to do so.

Out of consideration for the present and future public health of the Quinte Region, I cannot support the expansion.
Indeed, given the unfortunate location of the existing site in a sensitive headwaters area of the Quinte watershed, the preferred option would be to close it completely.

If the project goes ahead, the expanded dump may ultimately leak hazardous liquids and gases into the already highly-polluted Bay of Quinte watershed water and air for many generations to come. Collected hazardous leachates may be disseminated to Bay of Quinte watershed tributaries, or to regional farmlands. These products may be detrimental to the health of those who drink the water, breathe the air and eat the food of the region.

Published evidence from the UK and the US has raised questions about whether human disease is increased in populations living near landfill sites. Although associations have been found between certain human diseases and proximity of human residence to a landfill site, epidemiologists have not been able to establish whether or not these associations represent cause

and effect.

However, the case against expanding the Richmond landfall may be argued in general terms based on broad principles of public health, namely the precautionary principle, and the principle of reverse onus.

Landfilling and incineration, fundamentally equivalent methods, are negative and destructive approaches to waste management. Municipal "solid waste" landfills are repositories for unknown amounts of toxic and biological wastes. Chemicals and biologicals may ultimately leak or leach out in liquid form or be off gassed, thus theoretically posing a human health risk to residents of the region.

The availability of progressive alternatives renders landfills and other regressive methods obsolete. The proposal to expand the Richmond landfall, to be among the five largest in the province, is discordant with current understanding of drinking water supply issues. There is also the question of impact on air quality although it will not be possible to comment until the MoE has completed their provincial Air Standards revision. With respect to agricultural soils, the use of sewage sludges on agricultural lands is an ongoing matter of controversy.

The Richmond landfill site is located in the very headwaters of the Marysville Creek, and is immediately adjacent to the headwaters of Sucker Creek to the south, and to the Salmon River to the north. All three of these streams are source waters for the Bay of Quinte, which in turn is a source of drinking water for Deseronto, Belleville and Trenton. (Napanee takes its drinking water from Lake Ontario.)

Potential human health impacts of the project could occur via pollution of air, soil or water.

The proponent's Discussion Paper #7, (Environmental) Impact Assessment, Nov 2004 contains consultant's reports,, which deal with Public Health and Safety. Human Health Risk Assessment, Air Quality, Natural Environment and Resources, and Agriculture are included in the List of Disciplines and Consultants.

Their general conclusions are that "there is negligible risk (not significant or important enough to be worth considering) of adverse health effect from exposure to landfill gas" and that "the landfill expansion will have no adverse effect on groundwater and surface water resources"- due to the use of an MoE approved Generic II composite clay/plastic liner along with contingencies to protect against "the unlikely event of liner failure". The liner is apparently designed to remain impermeable for one thousand years.

Unfortunately, given the information supplied in Paper # 7 these conclusions do not appear to be justified, for the following reasons.

1. Air. Risk assessment has been done using MoE Air Standards which are now outdated (see below).

2. Soil. No health Risk Assessment has been provided for the ultimate disposition of leachate contaminants to agricultural lands via STP treatment.

3. Water. No health Risk Assessment has been provided for landfill contaminants which may enter surface or ground waters via:

a. Direct discharge to surface waters after pre treatment on site
b. Leakage of leachate through the liner. (One view is that all landfills ultimately leak.)

No doubt, further risk assessments could be produced to fill in these gaps. Unfortunately neither would this be particularly reassuring. Risk Assessment is ultimately based on the science of epidemiology, which is generally acknowledged to be insufficiently powerful to predict the occurrence of chronic diseases from the types of exposures that may be expected, for example, from a landfill site. Notwithstanding this limitation, industry has
not hesitated to use risk assessment repeatedly over the past few decades as a license to pollute the environment. It appears that this practice is about to be repeated in the Richmond case.

Background and contextual comments:

It is now 20 years since 1985 when the International Joint Commission of the Great Lakes identified the Bay of Quinte as one of 43 Areas of Concern due to its severely degraded water quality. Impaired beneficial uses include those of drinking water, swimming and fishing. Pollution problems included excess algae, bacteria and toxic chemicals. In 1988 the Bay of Quinte Remedial Action Plan process was begun and in 1993 the RAP Stage 2 Report containing 80 cleanup and pollution prevention recommendations was published. The Report recommended the application of a combination of science and common sense. RAP implementation began in 1995 and the Restoration Council was formed in 1997 to implement the recommendations. Recommendation No. 49 suggested avoidance of human exposure to leachate from landfills on the Bay of Quinte, and Recommendation No. 60 recommended tributary improvement.

In 1998, the Great Lakes Health Effects Program published their data for the Bay of Quinte Area of Concern and for other Canadian Areas of Concern. An apparently higher incidence of certain diseases in these (polluted) areas compared with the rest of the province was identified, although it was made clear that no cause and effect could be inferred.

In May 2002, in his Part II Report of the Walkerton Inquiry: A Strategy for Safe Drinking Water, Justice Dennis O'Connor made 93 recommendations. The first 17 of these are related to Source Water Protection as a method of avoiding the contamination of drinking water in the Province. Recommendation No.1 is: "Drinking water should be protected by developing watershed-based source protection plans. Source protection plans should be required for all watersheds in Ontario."

O'Connor notes that "an enormous array of chemicals may be present in drinking water sources. (These include) metals, (toxic) organics, pharmaceuticals. .....Possible sources include ....

landfills.” (page 165)

In the "Specific Threats" section, under "Human Waste', O'Connor makes the following statement: "Municipalities may use bylaws to determine the types of chemicals that may be deposited by sewer users. Toronto has recently amended its Sewer Use Bylaw to provide more stringent environmental controls. The bylaw is applied to ensure that substances deposited into the city's sewers meet certain requirements. For instance the bylaw prohibits depositing .... waste disposal site leachate .... (and many other hazardous substances) into sewers.' (page 122)

The Environmental Commissioner of Ontario 2003-2004 Annual Report notes in Current State of Sewer Use Bylaws in Ontario (page 40) that “only a handful of municipalities, in particular Toronto and Kingston, have stringent limits on a wide range of parameters. Toronto has mandatory pollution prevention plans for sewer uses.”

Apparently then, what is acceptable practice for leachate treatment at the Napanee STP (where 400,000 gallons of Richmond landfall leachate were taken for treatment in 1998) is unacceptable to Toronto and Kingston, and unacceptable as well to Justice O'Connor and to Environmental Commissioner Miller.

In 2000, the MoE began the process of revising Air Quality Standards for industrial emissions to meet the objective of human health protection. In his Annual Report of 2004, the Environmental Commissioner of Ontario noted that the MoE is developing new and more stringent Air Quality Standards for certain contaminants which would be based on environmental and human health effects. These would translate, over time, into tougher emission limits for industries." (page 60) Specifically in 2001, and then again in June 2004 the MoE posted for public comment the following policy proposals: Air Dispersion Modelling Guidelines for Ontario; Guideline for the Implementation of Air Standards in Ontario; Updating Ontario's Regulatory Framework for local Air Quality. “Many of Ontario's air standards were established over twenty years ago. When compared to exposure limits and guidelines used in other jurisdictions, some of these standards are clearly dated and may not be adequately protective." (page 61)

So, What is the Alternative?

One alternative to land filling which is emerging globally is Zero Waste (e.g. www. zerowaste.org). Zero Waste is a positive, constructive approach to resource management. It involves job creation and community building and thus contributes to the economic prosperity of a community, perhaps the most important determinant of the public health.

The Quinte Region is already well on its way towards Zero Waste. Elements that remain to be developed in our region are the further elaboration of source separation to include the complete removal of toxics and organics from the waste stream.

As Zero Waste programs evolve over time declining volumes of waste are deposited in small local community-controlled stable inert landfill sites rather than large regional corporate-controlled leaking megadumps.

Comprehensive information on Zero Waste was made available to the Ontario Ministry of Environment at the 2001 Trenton November Forum sponsored by Quinte Watershed Cleanup Inc. The very presence of Quinte Waste Solutions Inc located on the western border of our region is testimony to the redundancy of the proposed landfill expansion on the eastern border. It is an irony that our region of the Province, having led the way in progressive waste reduction techniques, is being asked to host expansion of a garbage dump. The success and potential of the former should imply the irrelevance-and ultimate disposition- of the latter.

In the proposed Richmond expansion there is a clear environmental justice issue. A large trans-national corporation has approached an economically depressed community with the promise of investment into the community in exchange for the opportunity to site a polluting industry. A generation on, when landfall space is exhausted, the corporation will leave. The community may be left with an unhealthy legacy in perpetuity.

Out of consideration for public health, the Province of Ontario should sunset the expansion of landfills and waste incineration in favour of adopting positive and constructive programs of rational resource management. Community health would vastly benefit from such an approach.

Sincerely yours,

Hastings and Prince Edward Counties Board of Health

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