

TORONTO STAFF REPORT

June 27, 2005

To: Board of Health

From: Dr. David McKeown, Medical Officer of Health

Subject: Public Meeting on Toronto Public Health Studies Related to the Ashbridges Bay Treatment Plant
Ward 30 – Toronto-Danforth and Ward 32 – Beaches-East York

Purpose:

To report back on the public meeting on Toronto Public Health Studies related to the Ashbridges Bay Treatment Plant held at the Toronto Fire Academy on May 11, 2005.

Financial Implications and Impact Statement:

There are no financial implications arising from this report

Recommendation:

It is recommended that the Board of Health receive this report for information

Background:

As part of the Ashbridges Bay Treatment Plant Environmental Assessment (EA), in 1998, a mediation process was initiated between Toronto Works and Emergency Services (WES) and the community. In 2001, in order to fulfil the agreements arising from the EA mediation process, the Commissioner of Works & Emergency Services agreed to fund three studies requested by the community signatories to the mediation agreement. WES requested the Medical of Officer of Health to commission and oversee the completion of these studies. The studies are:

- (1) Biosolids Pellet Review Study: Human Health and Ecological Risk Assessment;
- (2) Health Status Study for the South Riverdale and Beaches Communities; and
- (3) ABTP Air Emissions Study.

In November 2004, The Board considered the report “Health and Ecological Risk Associated with Toronto Biosolids Pellets” which outlined the results from the first study. At its meeting of May 9, 2005, the Board of Health deferred consideration of the report “Air Emissions and Health Status Studies for South Riverdale and The Beaches Communities” and requested that the Medical Officer of Health report back on the studies, taking into consideration comments received through the public consultation process, to the July 11, 2005 meeting of the Board of Health.

This report highlights some comments pertaining to the health studies that came up at the public meeting of May 11, 2005.

Comments:

Toronto Water in collaboration with Public Consultation & Community Outreach Unit of Support Services organised a public meeting “Ashbridges Bay Treatment Plant – Public Health Studies” held at the Toronto Fire Academy (895 Eastern Ave) on May 11, 2005. This provided an opportunity to present the findings and recommendations from the three studies to the community. About 165 people were in attendance. Deputy Mayor Bussin and Councillor Fletcher welcomed them to the meeting. MPP Marilyn Churley and a representative of MP Jack Layton were also present. Minutes of the meeting are available on the Toronto Public Health website (www.toronto.ca/health/hphe/abtp_emissions.htm).

It was noted that there was cause for celebration because community action had resulted in improvements over time. Some concerns raised on the studies are highlighted below.

Impact on Robins and Other Birds:

Concern was expressed about the potential impacts of pellet use on robins and other birds due to chromium. While the biosolids pellet study estimated that there might be an adverse impact, levels of metals, including chromium, are decreasing in Toronto’s sewage sludge. This will reduce any impact in future. At its November meeting, the Board of Health recommended that the Federal Minister of Agriculture and Agri-Food facilitate the development of appropriate new standards for chromium, in part to address the potential adverse impacts on birds.

Fluoride:

Concern was expressed that fluoride was not one of the chemicals included in the emissions study. Data on fluoride emissions was not available for the Ashbridges Bay Treatment Plant. The Ontario half-hour point-of-impingement standard for fluoride is $4.3 \mu\text{g}/\text{m}^3$ for hydrogen fluoride and $8.6 \mu\text{g}/\text{m}^3$ for total fluorides. The Ontario air standards for fluoride are based on effects on plants, which are more sensitive to the effects of fluoride than humans. The World Health Organisation has suggested that prolonged exposure to fluoride levels in ambient air should be less than $1 \mu\text{g}/\text{m}^3$ to prevent effects on livestock and plants. These concentrations are similar to Ontario’s standards and are also considered sufficient to protect human health.

Data on levels of fluorides in wastewater shows that most of the fluoride remains in the water and thus would not be in the sludge. Therefore, it is unlikely that fluoride present in the wastewater coming into the treatment plant would have a negative impact on the community even when the incinerator was in operation. Work is underway to validate this.

Dioxins:

In its assessment of dioxins, the air emissions study used the Ontario Ministry of the Environment guideline for dioxins. Concern was expressed that Canadian standards for dioxins are not as stringent as those from other countries.

There is wide variation in guidelines or standards for dioxins in air. For example, California has a chronic inhalation reference exposure level of 40 picograms toxic equivalent per cubic metre (pgTEQ/m³). In contrast the U.S. Environmental Protection Agency's most recent upper bound estimate on the lifetime risk of all cancers combined (1×10^{-3} per pgTEQ/kg/day), suggests that exposures to 0.14 pg/m³ of dioxin in air would be associated with one in one million excess lifetime cancer risk. However, this assessment is still under review. The World Health Organisation has not developed an air guideline for dioxins, but notes that an air concentration of 0.3 pg/m³ or higher is an indication of local emission sources which need to be identified and controlled. Massachusetts has a concentration of 0.045 pgTEQ/m³ (annual average) and Arizona 8.5 pgTEQ/m³ (24-hour average). These two values are similar to Ontario's 24-hour average guideline of 5 pgTEQ/m³.

The maximum levels of dioxins in the study occurred when the incinerator was in full operation and were estimated as 0.00085 pgTEQ/m³ (24-hour average) well below these values. No dioxins are emitted to air once incineration stopped.

Study Design:

A question was posed about the choice of study design for the health status study. While there are limitations to the study done for Toronto Public Health, a door-to-door survey as suggested by members of the community would not have been better at finding the contribution of pollution to ill health in the community. Door-to-door surveys have different limitations. For example, they rely on self-reported illnesses. In comparison, the study done for Toronto Public Health used comprehensive physician-based records. It is very difficult to establish a causal link between specific sources of contaminants and adverse health outcomes, especially for exposures that have occurred in the past. In consultation with the Project Advisory Committee, Toronto Public Health considered various study designs, and selected the most appropriate one given the circumstances.

Conclusions:

A public meeting was held on May 11, 2005 to present the results of three studies that examined the health and environmental impacts of biosolids pellets, the impact of air emissions from the

Ashbridges Bay Treatment Plant and the health status of residents of South Riverdale and The Beaches. This report comments on some of the concerns raised at this meeting.

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