

Public Works and Infrastructure Committee Meeting # 3

Item PW3.4 - Biosolids Master Plan Update - Highland Creek Treatment Plant (HCTP)

My name is Heather Marshall and I am a campaigner with the Toronto Environmental Alliance. I am here today to share two key areas of concern I have with the plan to continue incinerating biosolids at Highland Creek: adaptability and pollution controls.

Adaptability

Air quality standards are continually becoming more stringent in order to protect human health and the environment. Some are 100 times more stringent than they were before. As was the case with the old incinerators, I fear that any new incinerators that are built will inevitably face the same challenges in meeting air quality standards 5 or 10 years down the road. In fact, in the last 10 years of this HCTP planning process, things have changed considerably. Toronto Public Health clearly identified in their Rapid Health Assessment that this neighbourhood needs the lowest release of air pollutants as possible and that options like 'beneficial use', plasma arc or pyrolysis could achieve lower levels than fluidized bed incinerators.

We've already heard about the problems with the 'antique' incinerator at Highland Creek. Fluidized bed incinerators are being called 'modern' technology but they started using them in the late 70's. How long will it take for this technology to be considered obsolete? How will it respond to the growing needs of Scarborough's residents and industries? Fluidized bed was named 7th best out of 11 options for sewage treatment. Why do we think this is good enough?

Once you decide on a technology, you are stuck with it for decades. It is extremely important for the City to invest in processes that are adaptable over time, so that they can develop existing and new market opportunities that offset the costs of running the facility. Methane gas capture, biofuel from anaerobic digestion, liquid and solid fertilizers are just some of the options that are in front of us today. The fluidized bed incinerator for Highland Creek might produce enough energy to run itself but some biosolid treatment plants are already producing so much energy it's sold onto the grid and they produce fertilizer products. Some use waste heat to keep greenhouses and community pools warm!

If we are truly planning for biosolids management until the year 2050, let's not get stuck with technologies that can't adapt to the changes and innovations in the marketplace or the needs of our communities.

Pollution control

The standards for air emissions and water effluent in Canada are not nearly as stringent as the standards in other countries including those that regularly use fluidized bed incineration technology to treat sewage sludge. When comparing our U.S neighbours to Canada, we can see just how far behind we are:

- Ontario's limit for mercury is 70 ug/dscm when it's only 0.700 in the U.S.
- The dioxins and furans limit in Ontario is 80 pg/dscm and it's only 3.08 in the U.S.
- Nitrogen oxides and sulphur dioxide contribute to greenhouse gas emissions and have strict limits in the U.S. In contrast, the Ministry of Environment has no limit.

The AECOM memorandum says that "Since advanced technologies are not required for municipal wastewater biosolids to meet Ontario regulatory standards, they are not used." We know where this mentality has landed us in the past and we are still cleaning up those messes.

Look only as far as Mississauga's G.E. Booth and Whitby's Duffin Creek treatment plants. Both have fluidized bed incinerators with Venturi scrubbers, which are good at removing particulate matter and that's about it. Search the National Pollutant Release Inventory for G.E Booth and you will find a long list of over 30 chemicals being released into the air including 1.9 kg of lead, 20 kg of mercury, and 0.652 kg of arsenic to name a few. Only now are these facilities installing much needed air pollution control technologies that will remove most of the mercury and dioxins/furans coming out of their stacks. Why?

The AECOM memorandum also says that the original Highland Creek treatment plant fluidized bed incinerator was only based on a standard air pollution control (APC) system. While a 'standard' system will control mercury and dioxins/furans, it leaves out treatment for a lot of other harmful emissions. For instance, the AECOM memorandum outlines how nitrogen dioxide has a global warming potential of 310 compared to 1 for CO2. These emissions can be reduced by 60 - 80% using additional air pollution controls yet they were not included in the base plan for Highland Creek's new incinerator. Why?

Summary and suggestions

The City of Toronto must go well beyond the standards set by the province and strive to meet a strict community standard that safeguards the environment and our health to the best of their ability. If the City decides to move forward with Toronto Water's recommendation to thermally dispose of biosolids, please plan for the long-term:

- Investigate adaptable options for the facility that can take advantage of emerging markets in biogas, co-generation facilities, fertilizer products and waste heat uses that benefit the community like pools and greenhouses.
- Aim to achieve pollution control limits set out by the forward thinking U.S EPA rather than tying our hands to the outdated, disappointing standards of the Ministry of Environment.
- Focus on the best possible pollution control technologies, not the cheapest. Air pollution controls are expensive, so they must be factored into the cost of the incinerator and installed when it's built. Otherwise, it's likely to be the first thing that gets cut if the capital costs of construction increase.