

**HIGHLAND CREEK TREATMENT PLANT (HCTP)
Neighbourhood Liaison Committee (NLC)**

**Meeting #13
Monday, May 1, 2006**

**Highland Creek Treatment Plant Meeting Room
51 Beechgrove Drive**

**Plant Tour: 6:30 p.m. to 7:45 p.m.
Meeting: 7:50 p.m. to 9:10 p.m.**

DRAFT SUMMARY NOTES

A plant tour for Highland Creek Treatment Plant Neighbourhood Liaison Committee members was followed by a meeting.

ATTENDANCE

Residents

Francis Chang, Community Chair
Maria Vandenberg
Ken Ireland
Joseph Kryszanowski
Stella Kryszanowski
John Hopkins
Grant Taylor
Jean-Yves Urban
Don York

City of Toronto

Martin Shigeishi, Plant Manager
Neil Beesley, AWS Engineers & Planners Corp.
Nancy Martins, Public Consultation Unit

Kate Powadiuk, Note Taker

AGENDA

1. Welcome and Introductions
2. Review of Agenda and Summary Notes (September 12, 2005)
3. Odour Assessment Study
4. Plant Updates
 - August 19, 2005 Storm Impacts Update
 - In-house Projects
 - Biosolids Management
5. Other Business
6. Next Meeting Date, Agenda Items, Adjourn

1. INTRODUCTIONS

Francis Chang, Community Chair, called the meeting to order at 7:50 p.m. All participants present introduced themselves.

Francis Chang read the Code of Conduct aloud. There were concerns raised at the last meeting that people did not have a chance to speak and were talking out of turn.

2. REVIEW OF AGENDA AND SUMMARY NOTES

It was recommended that the minutes be adopted as recorded. The motion was seconded and the minutes from September 12, 2005, were adopted as distributed.

3. ODOUR ASSESSMENT STUDY

Neil Beesley provided an updated overview of the Highland Creek Treatment Plant (HCTP) Odour Assessment Study.

Presentation Summary

Purpose: Fully investigate and quantify odourous air emissions due to wastewater treatment operations at HCTP. Recommend how to reduce odour impact to acceptable levels in a cost effective way. Currently installed odour control technologies are either old or misapplied treatment technologies.

Odour Technology Evaluation Summary:

Bioscrubbers not considered appropriate for HCTP because organic odour compounds constitute large percentage of airstream and would be largely untreated.

Wet packed tower scrubbers most maintenance intensive, use very large amounts of chemical, and require that sodium hydroxide and sodium hypochlorite stored on-site; also have been historically ineffective at HCTP.

Carbon adsorbers preferred technology where airstream generally dry with low odour concentrations (e.g., headworks room air).

Biofilters preferred technology for airstreams with elevated humidity (e.g., headworks grit channels), as well as high and sustained hydrogen sulphide concentrations and/or volatile organic compounds, providing long-term reliability and treatment efficiency.

Recommendations

- Two-phased approach is suggested in order to contain and treat odours generated at HCTP.
- **Phase I:**
 - Install some odour control systems for the areas with the highest odour

sources.

- Combination of process optimization recommendations to reduce odour and need for new odour control systems.
- Facilities with lowest potential to be substantially modified by planned capital improvement projects.
- Headworks Facility, Primary Clarifiers, and Aeration tanks currently comprise approximately 90% of total HCTP odour emission. These areas would be targeted for new odour control systems.

Resulting Odour Reduction Impact from Phase I:

- Odour control measures modelled using CALPUFF model developed for background conditions.
- Improvements would achieve 90% reduction in off-site odour exceedances at 11 sensitive receptors.
- Peak ten-minute odour threshold estimated to drop from 499 to 16 odour units after Phase I implementation.
- Biofilters were found to be the most significant remaining odour source. However, they are usually thought of as a pleasant organic odour. Project team experience is that well-operating biofilters do not cause off-site odour complaints.

Cost:

- Estimated capital cost: \$9.54 million (including 30% contingency, but excluding taxes) plus 15% for design, contract, administration and site inspection); estimated total cost: \$11.74 million.

● **Phase II:**

- Additional measures considered after Phase I constructed and operational and further monitoring performed to assess level of odour reduction achieved.
- Phase II odour control technologies would be considered once impact of Phase I improvements quantified, and recommendations and implementation of “Facility Forecast” and “Biosolids and Residuals Master Plan” have been realized.
- Primary clarifiers will have been operated with lower sludge blanket depths once processing constrictions corrected.
- Decision will have to be made about whether Phase II is necessary given that Phase I will eliminate approximately 90% of the odours.

Resulting Odour Reduction Impact from Phase II:

- Virtually achieve goal of 1 odour unit at 11 sensitive receptors, but only if secondary clarifiers are not assumed to be an offensive odour source.

Cost:

- Estimated capital cost: \$18.75 million (including 30% contingency, but excluding taxes) plus 15% for design contract administration and site inspection); estimated total cost: \$23.07 million.

Questions/Comments Regarding Study

Nancy Martins asked if **Neil Beesley** could explain the significance of the boundaries as outlined on one of the graphs showing an example of odour conditions. **Neil Beesley** explained that the model indicated that this area had 25 odour units detectable. **John Hopkins** asked how the 25 odour units in the graph related to the target of one odour unit. **Neil Beesley** explained that one odour unit is a guideline and hypothetical target that is difficult to achieve all of the time.

Francis Chang asked if the graph shown was a worst case scenario. He wondered how often it would happen. **Neil Beesley** responded that the model illustrates particular atmospheric conditions and is only an example. For instance, a particular odour was detected 5000 times a year according to the model, which is quite often. **John Hopkins** asked how long a 'time' is when an odour is detected. **Neil Beesley** said that it is about one minute. **Francis Chang** pointed out that if an odour is detected 5000 times a year that it is more than ten times a day. **Neil Beesley** clarified that it is a mathematical model, and that this is used as a yardstick to measure change against. The models shown during tonight's presentation are theoretical and would not happen exactly as they were shown.

Stella Kryszanowski asked why odours in second graph shown would gather in a pocket close to Lake Ontario. **Neil Beesley** explained that it was due to the mathematical conditions, and could be due to atmospheric conditions such as wind. Approximately 50% of people in the area on the graph would notice a slight odour.

Joseph Kryszanowski asked how Toronto treatment plants compare to other Canadian or European systems. **Neil Beesley** related that variance exists across Canada and internationally as well. It depends on circumstances, such as economics, political will, and government standards.

Francis Chang requested that the presentation material be attached to the minutes. **Neil Beesley** stated that it would be possible. (Attachment 1)

Francis Chang asked whether Phase II puts more odour compounds through the stack to protect the immediate neighbourhood from odours. He wondered whether this would impose odours on other neighbourhoods that are farther away, as shown in a graph earlier in the presentation. **Neil Beesley** stated that the dispersion of odours is effective, as it does not result in being able to detect odours from farther away due to concentration. The odours are diffused so much that they are not detectable.

Joseph Kryszanowski asked if there were any good habits people should be taught in order to help with sewage treatment. **Neil Beesley** responded that while this is a valid idea, it is difficult in a city this large for it to make a difference. In Kitchener-Waterloo, where there is only one surface water plant, they have a program with the motto "if it's yellow let it mellow, if it's brown flush it down." However, this would likely result in more concentrated organic loads, which would affect the treatment process. Every region deals with it differently.

4. PLANT UPDATES

August 19, 2005 Storm Impacts Update

Martin Shigeishi updated the group on the August 19, 2005 storm impacts. Some of the tunnels in the plant, that staff use to access areas of the plant, were flooded. Equipment repairs, clean up and disinfection in these areas have been done. A new above-ground generator, as opposed to a below-ground generator, has been added to the plant. The process control system had a lot of damage, which has also been repaired. The total damage claim was approximately \$650,000.

In-house Projects

- **Sludge Disposal**
 - **Martin Shigeishi** reported on Sludge Disposal. Activated sludge from the secondary treatment process will be dealt with separately, so it is not recycled through the primary clarifiers. One of the sources of odours was found to be from the primary clarifiers, as a portion of the sludge gets directed there. The future plan is to thicken the activated sludge and send it directly to the digesters.

- **Headhouse Covers**
 - **Martin Shigeishi** explained that in the Headhouse, covers on the grit channels often have to be removed due to operational needs and maintenance issues. The grit removal system will be improved, so that covers can be kept on longer, thus reducing odour emissions.

- **Site Security**
 - **Martin Shigeishi** informed that a request for proposal regarding site security will be submitted shortly. Security upgrades would include: perimeter fencing, new gates, cameras to give full coverage of the facility, and an security access card system. Construction will hopefully start in the summer and will likely be completed in 2007.
 - **Francis Chang** asked what the budget was for the site security updates. **Martin Shigeishi** responded that it is close to one million dollars. Each of the Toronto plants is updating their security.

- **Equipment Replacement**
 - **Martin Shigeishi** reported that another small job at the plant is replacing some older transformers. In the next few weeks a design contract will be awarded to a consultant regarding the replacement of this equipment.

- **Stack Emission Testing**
 - **Martin Shigeishi** stated that in August 2005, a draft report was completed on stack emission testing. The most significant issue from the report was that mercury levels were slightly above acceptable levels at HCTP. All other levels at HCTP were acceptable. A new standard has been introduced this year from the Ministry for mercury and dioxins and furons. Dioxin and furon levels were fine for the plant. Further emission testing for mercury was done in January 2006 to validate the results from August 2005. In January 2006, emission testing on incinerated raw

sludge was also performed in addition to testing on digested sludge. The emissions from the raw sludge in January were found to be in compliance with regulations. We are still not 100% sure of what the cause of mercury found in August 2005 is, so another round of testing is required. If the Biosolids and Residuals Master Plan is put in place, then mercury would be less of an issue with appropriate emission control technologies put in place.

- **Francis Chang** asked how much raw sludge versus digested sludge are being incinerated? **Martin Shigeishi** responded that no raw sludge is being incinerated anymore. Since the digesters were commissioned, only anaerobically digested sludge is being incinerated.
- **Francis Chang** asked if testing was a requirement. **Martin Shigeishi** explained that testing was required annually by the Ministry of the Environment.
- **Joseph Kryszanowski** asked where the mercury is coming from. **Martin Shigeishi** responded that it was coming from industry. He related that there has been a slight reduction in mercury concentrations due to Sewer Use By-law that industries had to abide to since 2000. It is hard to pinpoint the particular industry sector. **Jean-Yves Urban** responded that it was due to the dental industry. **Martin Shigeishi** noted that one of the first industries to be targeted in the Sewer Use By-law was the dental industry, but it is not the only industry contributing.

Biosolids Management

Martin Shigeishi explained that there have not been any major changes regarding biosolids management. Recently council passed a motion for a peer review on the Biosolids Master Plan. **Francis Chang** asked what the timeline was for the public review of the Master Plan. **Nancy Martins** responded that it was originally supposed to be a 30-day review in 2004 and it was extended indefinitely.

Maria Vandenberg wondered what will happen now with the odour study and biosolids management. She wondered if recommendations are taken seriously. **Martin Shigeishi** explained that the odour study recommendations will be included in the capital plan, with specific recommendations regarding budgeting to happen within the next couple of months. One of the first steps is to start with a detailed design plan for Phase I and a consultant needs to be selected for this process.

Maria Vandenberg asked whether biofilters are at any other Toronto plant. **Martin Shigeishi** replied that biofilters are in place at Ashbridges Bay. **Jean-Yves Urban** added that biofilters have been there since 2000.

Maria Vandenberg asked what the timeline was for the odour study phases? **Martin Shigeishi** stated that 2007 would likely be the first opportunity when funds would be available. A consultant needs to be selected and design work needs to be completed which would probably take the process into 2008. It is estimated that construction would start in 2009. **Neil Beesley** reminded the group that it is a process and you never know how long it is going to take.

5. OTHER BUSINESS

Nancy Martins informed the group of people who sent regrets for the meeting. **Allen Ellis** was unable to attend. **Gay Cowbourne**, Councillor for Ward 44 Scarborough East, sent her regrets for the meeting and hopes to be at future meetings. **Frank Quarisa**, replaced **Lou Di Gironimo** as Director of Wastewater, and was unable to attend the current meeting, but plans to attend the next meeting. **Lou Di Gironimo** now holds the position of General Manager of Toronto Water.

6. NEXT MEETING DATE, AGENDA ITEMS, ADJOURN

Francis Chang suggested that the next meeting be held in late September or early October 2006. The group confirmed that this was a suitable time.

Nancy Martins explained that if any items arise at an earlier date that a meeting can be called earlier. A newsletter, with distribution to the community surrounding HCTP, will hopefully come out in Fall 2006 as well. The newsletter will update the community on the odour study and other Plant information.

Francis Chang requested that the next meeting update the group on the Stack Emissions and Biosolids Management.

Meeting adjourned at 9:10 p.m.