

**HUMBER TREATMENT PLANT
NEIGHBOURHOOD LIAISON COMMITTEE
(HTPNLC)**

MEETING #2/04

Humber Treatment Plant – Administrative Building
130 The Queensway
Tuesday September 21, 2004
7:00pm – 8:40 pm

SUMMARY NOTES

In Attendance

Residents/ Others

Garry Kapitan - Co-Chair
Sidney Down - Resident
Harold Down – Resident
Dianne Doan - Resident

City of Toronto Staff

Samir Damian – Humber Treatment Plant
Voitek Kozakiewicz – Humber Treatment Plant
Nancy Martins – Public Consultation & Community
Outreach
David Simms – Wastewater Services
George Theodorlis – Technical Services

Consultants

Moe Zolghadr – ZORIX Environmental
Michael Rix – ZORIX Environmental

Minute Taker – Michelle Kwong Hing

Agenda

1. Approval of Agenda
2. Approval of June 3, 2004 Summary Notes
3. Review of Action Items
4. HTP Odour Study Update
5. Updates
 - RAS/WAS Project
 - Co-generation Project
 - Plant Water Treatment Project
 - Rehabilitation of Digesters
6. New Business
7. Next meeting Date/Adjournment

Documents provided at the meeting:

1. Responsible Choices Newsletter; Issue 5 – September 2004 (can be found at www.toronto.ca/biosolids_masterplan)

HTPNLC Meeting

Garry Kapitan opened the meeting at 7:00pm and welcomed participants. Introductions were made of all the attendees.

1. APPROVAL OF AGENDA

The agenda was adopted as distributed.

2. APPROVAL OF JUNE 3, 2004 SUMMARY NOTES

The summary notes from the HTPNLC meeting #1/04, June 3, 2004 were adopted as distributed.

3. REVIEW OF ACTION ITEMS

It was noted from Nancy Martins that there were no action items at this time.

4. HTP ODOUR STUDY UPDATE

Moe Zolghadr from ZORIX Environmental took the floor and outlined the scope of the project stating the comprehensiveness of the study because it covers the entire plant. Three rounds of odour sampling and analysis are required whereby each round covers the entire plant. Assessment of impact after the first and third round will ultimately state what the situation is, however impact analysis is completed after each round. Recommendations will then be formulated to mitigate the impacts and the final step will be the concept design of the Odour Abatement Systems.

Round 1 Sampling and Analysis took place during the summer of 2004 whereby over 40 odour sources were identified and over 70 odour samples were evaluated. It was stated that hydrogen sulphide was also measured at each source. Modelling and impact assessments were developed using round 1 results.

Moe Zolghadr continued the presentation and defined specific terms relevant to the HTP and the Odour Study.

Definition of Terms

Source – where the odour comes from.

Point - i.e. a chimney

Area - i.e. a pond or tank

Fugitive – i.e. A window or door; neither a point or area

Receptor – Where the impact is felt.

i.e. The intake to a building.

Dispersion Modelling – predicting the dispersion of a pollutant using meteorological data.

Off Property Impact – the impact of an odour outside specific boundaries.

Worst-case impact scenario – using data collected and looking for the worst potential impact. i.e. What the odour is like on really humid days.

Relative Contribution - a group of sources taken in isolation to view relative contribution on the total impact.

i.e. Measuring the total impact the HTP has on odour.

Frequency Analysis – measuring the number of occurrences that take place.

i.e. How many times a year the odour is significantly present.

One Odour Unit – the level of odour in air which can be detected by 50% of the population.

Finally, Moe Zolghadr stated that there are over 40 odour sources including seven main groups:

Source Groups at Humber WWTP:

1. **Grit and Screening (headworks)**
2. **Open Primary Tanks**
3. **Aeration Tanks**
4. **Sludge Thickening Building**
5. **Digesters**
6. **Odour Scrubber**
7. **Final Clarifier Tanks**

The next segment of the presentation included Michael Rix from ZORIX Environmental, giving an overview of the HTP with several aerial view pictures of the plant. He went on to locate each area of the plant and defined the major odour sources from each area. It was stated that a variety of approaches were used to collect data from each source group. For example, from the Sludge Thickening Building, odour bags were used to collect samples. From the Digesters, odour was measured from the exhaust located at the underground tunnels. Finally, from the Primary Tanks a different technique used flux chamber ventilation to collect and sample how much odour comes off the surface. Michael Rix then determined that the next step of the process would be analyzing the impact on the neighbourhood.

Michael Rix explained the **Modelling and Impact Assessment** which encompasses not only the use of computer modeling, also the US EPA (United States Environmental Protection Agency) Dispersion Model (CALPUFF), in which he stated was very sophisticated for assessing air dispersion and its use is beneficial for short term impacts. Five years of local meteorological data was also used to assess the impact as well as worst case predictions. Michael Rix also stated that an assessment was completed for the impact at elevated receptors for high rise communities.

Finally, a **Summary of Round 1 Results** were presented:

- There is a potential for significant odour impact in the neighbouring community
- The bulk of the odour impact is due to 3 source groups
 1. Headworks Building
 2. Primary Tanks
 3. The old Scrubber

Furthermore, Michael Rix explained that Round 1 results have impacted the sampling for Round 2 specifically that an increase in sampling from the digesters was needed. The next step of the program will be to think about how to minimize the impact and focus of certain source points.

Questions during the ZORIX Environmental presentation:

Q: From what distances have the odour complaints come from?

A: Moe Zolghadr replied that complaints have been from about 1 – 2 km away from the plant, reaching as far as Bloor Street but not beyond 2 km.

Q: Is the impact of odour different at higher altitudes? What is the impact on high rise communities?

A: Michael Rix replied that the ground level is mostly affected; however an increase in temperature can cause the smell to rise. He explained that the HTP does not have many hot sources that would contribute to the rise of odour.

Q: How does the level of impact at the HTP compare with the Ashbridges Bay Treatment Plant?

A: Michael Rix responded saying that the level of impact is in line with the study done at Ashbridges Bay but might be slightly higher at the HTP. He explained that the Ashbridges Bay Treatment Plant contains a Biosolids Facility which is a major part of the Ashbridges Bay study process. He continued to state that the two plants are very different. The processes, terrain and topography of each plant is significantly distinct and only data pertinent to the HTP can be used.

Q: Is Round 2 of testing completed?

A: Moe Zolghadr replied that the bulk of Round 2 sampling and testing was completed mid to late August, 2004. The analysis is also completed.

Q: When will the entire Odour Study program with recommendations be completed?

A: Moe Zolghadr responded by saying the final report, including recommendations should be completed January – March of 2005.

Q: Regarding the construction process, how long will it take to mitigate the impact?

A: Moe Zolghadr replied that there is much construction involved and the earliest time of completion would be 5-6 years subject to availability of capital funding and Council approval. He further explained that after solutions and recommendations were implemented by the city, the impact would gradually decline and there would be incremental benefits to the community.

Q: What kills the smell?

A: Moe Zolghadr explained that smell is made up of chemical compounds and that there are several ways to kill the odour. Firstly, he stated you could burn the air and increase the heat which would result in burning off the compounds. Secondly, he stated that a chemical shower could be produced which would neutralize or eat away at the smell. Thirdly, you could pass the smell through a carbon filter. The smell would pass through a bed of organic/inorganic material where bugs would eat the odour, seemingly 'odour eaters.' The bugs would then digest and convert the odour to carbon dioxide and water vapour. Moe Zolghadr stated that the final method is environmental technology whereby nature would be looking after itself.

5. UPDATES

Voitek Kozakiewicz reported on the following capital projects:

- **RAS/WAS – Return Activated Sludge/Waste Activated Sludge**

Scope

- Improving the waste activated system
- Return activated sludge pumping system

- Waste activated sludge systems
- Scum collection system
- SCADA control

Status

- Construction almost completed
- Commissioning in progress

- **Co-generation Project**

Scope

- Air blower repair
- Hot water boilers repair

Status

- Construction almost complete
- Commissioning in progress
 - test runs of co-generation units

- **Plant Water Treatment Project**

Scope

- Water filters facility
- Plant water distribution system upgrade

Status

- Construction completed
- Commissioning in progress
 - Installation of screens

- **Rehabilitation of Digesters**

Scope

- 1-6 rehabilitation of structure
- Gallery rehabilitation
- Mechanical upgrade
- Electrical upgrade
- Control Systems upgrade

Status

- Detailed design review completed
- Specification review completed
- Contract tendering in progress
- Construction to start early next year

Voitek Kozakiewicz stated that due to the size and complexity of construction the plan is to up grade 2 digesters per year.

Questions during Voitek Kozakiewicz presentation on capital projects:

Q: Regarding the rehabilitation of the digesters, what are the associated costs?

A: Voitek Kozakiewicz replied by stating that the contract tendering process is in progress and Contractors are currently working on their bid submissions. In order to maintain the integrity of the bidding process the budget figures can not be released at this time.

Q: Do the capital projects affect the odours?

A: Voitek Kozakiewicz responded by stating that the digesters construction may have a slight impact. It is always an integral part of the contract co-ordination to schedule the work in a way that additional odours are not generated. This principal was used in the phasing of the digesters

rehabilitation contract. In general the odour emissions attributed to the construction activities are insignificant.

Q: Does the co-generation project help the odours?

A: Voitek Kozakiewicz replied that the digesters produce gas; currently the gas generation exceeds the gas demand. The gas balance and gas availability was a base for the design of the Co-generation facility. Once the co-generation is running, all available gas will be used. The Co-generation project should not have any significant impacts (negative or positive) on the odour emissions.

Q: New engines were installed for the co-generation project and will be used to generate electricity. Will both engines run at the same time?

A: Voitek Kozakiewicz responded that the use of engines would be balanced and that usage would depend on costs and market situations. The strategy (as designed for the system) is to run one engine continuously, but there is potential that both engines will be in operation at the same time.

6. NEW BUSINESS

Nancy Martins confirmed that the draft Biosolids and Residuals Master Plan is now completed and out for a 30 day public review period. In the case of the Humber Treatment Plant, the highest ranked strategy for the management of biosolids was to continue with the current management option - discharge liquid biosolids to the Mid-Toronto Interceptor, which flows into the Ashbridges Bay Treatment Plant for co-management with other biosolids. She explained that the executive summary of the draft master plan was about 30 pages long and invited those interested to read it. The entire draft document can be found at several Toronto Public Libraries and Civic Centres and locations are listed in the newsletter. Any comments on the report would be accepted and appreciated.

7. NEXT MEETING

The next meeting date for the HTPNLC will be held once Round 3 of sampling is completed. Nancy Martins stated that she hoped to circulate a newsletter to residents to announce the next meeting.

8. ADJOURNMENT

The meeting adjourned at 8:40pm